

ADA022121

AD

TECHNICAL REPORT

76-35-FSL ✓

CONSUMER AND WORKER EVALUATION OF
CASH FOOD SYSTEMS:
LORING AFB (PART I - SHORT TERM FINDINGS)

January 1976

Approved for public release;
distribution unlimited.

UNITED STATES ARMY
NATICK RESEARCH and DEVELOPMENT COMMAND
NATICK, MASSACHUSETTS 01760



Citation of trade names in this report does not constitute an official indorsement or approval of the use of such items.

ACCESSION FOR
NTIS White Service
Full Service
SEARCHED
SERIALIZATION

BY
NOV 1968 APPROVED

A

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|---|---|---|
| 1. REPORT NUMBER MDC- TR-76-35-FSL | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE (and Subtitle) CONSUMER AND WORKER EVALUATION OF CASH FOOD SYSTEMS: LORING AIR FORCE BASE (PART I) | 5. TYPE OF REPORT & PERIOD COVERED Technical rept. | 6. PERFORMING ORG. REPORT NUMBER |
| 7. AUTHOR(s) James R./Siebold, Lawrence E./Symington, R. Curtis/Graeber and Deborah L./Maas | 8. CONTRACT OR GRANT NUMBER(s) | |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS Food Sciences Laboratory US Army Natick Development Center ✓ Natick, Massachusetts 01760 | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 6.2 63225210005 A4-6 | |
| 11. CONTROLLING OFFICE NAME AND ADDRESS US Army Natick Development Center Natick, Massachusetts 01760 | 12. REPORT DATE November, 1975 | 13. NUMBER OF PAGES |
| 14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) (12) 115 p. | 15. SECURITY CLASS. (of this report) Unclassified | 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE |
| 16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited | | |
| 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) | | |
| 18. SUPPLEMENTARY NOTES | | |
| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Feeding Feeding Systems Consumer Acceptance BAS/A La Carte Food System Worker Satisfaction | | |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Loring AFB consumers and workers were interviewed and surveyed before and after the implementation of the BAS/A La Carte cash food system in January, 1975 (a system whereby all personnel receive a monetary food allowance and pay for food in the dining hall on an item-by-item basis.) In general, consumers were more satisfied with the dining hall under this new system than under the previous, traditional system. Nearly all airmen preferred separate rations (a food allowance) rather than rations-in-kind (authorization | | |

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

4, 7, 245

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

to eat in the dining hall at no cost), and the majority preferred item-pricing rather than meal-pricing. Nonetheless, RIK's (men on rations-in-kind prior to BAS/A La Carte) reported eating in the dining hall substantially less often after than before BAS/A La Carte, primarily because they now received separate rations. BAS's (men receiving separate rations both before and after BAS/A La Carte) reported a slight increase in attendance, which some attributed to item pricing.

Many airmen reported that BAS/A La Carte affected their food habits in the dining hall, frequently reporting they were eating less in general, although more of certain foods (inexpensive meats), and wasting less.

Workers (both military and civilian) generally preferred BAS/A La Carte to the old system, although the reverse was the case before they worked under the new system. Frequently given reasons for this preference were: increased menu variety (which gave many the opportunity to actually cook), an easier job, less waste, and improved consumer attitudes.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

TECHNICAL REPORT

CONSUMER AND WORKER EVALUATION OF CASH FOOD SYSTEMS:
LORING AFB (PART I)

James R. Siebold
Lawrence E. Symington
R. Curtis Graeber
Deborah L. Maas

November 1975

Food Sciences Laboratory
US ARMY NATICK DEVELOPMENT CENTER
Natick, Massachusetts 01760

TABLE OF CONTENTS

| | <u>Page</u> |
|--|-------------|
| LIST OF FIGURES | 3 |
| LIST OF TABLES | 4 |
| INTRODUCTION | 7 |
| METHOD | 9 |
| <u>Consumer Instruments.</u> | 9 |
| <u>Surveys</u> | 9 |
| <u>Interview</u> | 10 |
| <u>Worker Instruments.</u> | 11 |
| <u>Survey</u> | 11 |
| <u>Interview</u> | 12 |
| RESULTS | 12 |
| <u>Consumer Interview and Surveys.</u> | 12 |
| <u>Demographic Data.</u> | 12 |
| <u>Effect of BAS/A La Carte on Attitudes Toward</u> | |
| <u>That and Other Food Systems</u> | 13 |
| SUMMARY | 20 |
| <u>Effect of BAS/A La Carte on Reported Attendance</u> | |
| <u>in the Dining Hall.</u> | 22 |
| SUMMARY (Interview) | 28 |
| SUMMARY (Survey). | 33 |
| <u>Effect of BAS/A La Carte on Food Habits in the</u> | |
| <u>Dining Hall</u> | 34 |
| SUMMARY | 37 |
| <u>Effect of BAS/A La Carte on Financial Attitudes</u> | 37 |
| SUMMARY | 41 |
| <u>Effect of BAS/A La Carte on General Attitudes</u> | 41 |
| SUMMARY | 46 |
| <u>Effect of BAS/A La Carte on Attitudes Toward</u> | |
| <u>The Dining Service.</u> | 46 |
| <u>A. Food Features</u> | 48 |
| SUMMARY | 53 |
| <u>B. Features of the Dining Environment and</u> | |
| <u>Service</u> | 53 |
| SUMMARY | 54 |
| <u>Worker Surveys and Interviews</u> | 54 |
| <u>Demographic Data.</u> | 54 |
| <u>Effect of BAS/A La Carte on Workers' Opinions</u> | |
| <u>of That and the Traditional Military Food System.</u> | 55 |
| SUMMARY | 63 |

| | <u>Page</u> |
|--|-------------|
| <u>Perception of the Effect of BAS/A La Carte on</u> | |
| <u>Consumer Satisfaction.</u> | 64 |
| SUMMARY | 67 |
| CONCLUSIONS. | 67 |
| REFERENCES | 71 |
| APPENDICES | 72 |

LIST OF FIGURES

| <u>Figure No.</u> | | <u>Page</u> |
|-------------------|---|-------------|
| 1 | Percentage of Responses of Pre-Test BAS's and RIK's to Question of Whether Attendance Would Increase or Decrease as a Result of Item Pricing | 23 |
| 2 | Percentage of Meals BAS's and RIK's Reportedly Ate in the Dining Hall Pre- and Post-Test. . . . | 31 |
| 3 | Frequency of Estimates of Rations Allowance by the 68 BAS's and RIK's Who Reportedly Knew the Correct Amount (\$2.41). | 42 |
| 4 | Format for the Worker Scale of the Job Description Index (JDI). | 57 |

LIST OF TABLES

| <u>Table No.</u> | | <u>Page</u> |
|------------------|--|-------------|
| 1 | Mean Ratings of an All-BAS Policy by Pre- and Post-Test BAS's and RIK's. | 15 |
| 2 | Percentage of Post-Test BAS's and RIK's Reporting Changes in Food Habits Over the Pay Period | 16 |
| 3 | Mean Ratings of Item-Pricing by Pre- and Post-Test BAS's and RIK's. | 18 |
| 4 | Twelve Food Systems and the Percentage of Pre- and Post-Test BAS's and RIK's Choosing Each | 19 |
| 5 | Mean Economic and Overall Rating of "Best" System by Pre- and Post-Test BAS's and RIK's | 21 |
| 6 | Percentage of Post-Test BAS's and RIK's Whose Attendance Reportedly Increased, Remained the Same, or Decreased as a Result of BAS/A La Carte. | 24 |
| 7 | Frequency of Responses to Question of Whether Item-Pricing Influenced Reported Changes in Attendance Frequency Among Post-Test BAS's and RIK's | 26 |
| 8 | Main and Other Reasons for Relative Non-Attendance as Given by Pre- and Post-Test BAS's and RIK's (In Percentages). | 27 |
| 9 | General Mean Weekly Meal Frequencies Reported by BAS and RIK Survey Respondents Combined Over the Pre- and Post Tests | 29 |
| 10 | Mean Weekly Frequencies with which Pre- and Post-Test BAS's and RIK's Reportedly Had Meals in Non-Dining Hall Establishments | 32 |
| 11 | Changes in Food Behavior in the Dining Hall which would or Did Occur as a Result of BAS/A La Carte as Reported by Pre- and Post-Test BAS's and RIK's (in Frequency and Percentages). | 35 |

LIST OF TABLES (Cont.)

| <u>Table No.</u> | | <u>Page</u> |
|------------------|---|-------------|
| 12 | Frequency and Percentages of Changes in Types of Foods Eaten in the Dining Hall as Reported by Post-Test BAS's and RIK's | 36 |
| 13 | Rank of Eight Determinants of Food Choice as Given by Pre- and Post-Test BAS's and RIK's | 38 |
| 14 | Mean Ratings of Adequacy of Rations Allowance by Pre- and Post-Test BAS's and RIK's | 40 |
| 15 | Mean Interview and Survey Ratings of Loring Facility Relative to Others as Given by Pre- and Post-test BAS's and RIK's. | 44 |
| 16 | Mean Rating of Satisfaction with Air Force Food Service as Given by Pre- and Post-Test BAS's and RIK's | 45 |
| 17 | Factors Which Would Increase Attendance as Given by Pre- and Post-Test BAS's and RIK's (In Percentages). | 47 |
| 18 | Mean Ratings (and Rankings) of 14 Food Service Factors as Given by Pre- and Post-Test BAS's and RIK's | 49 |
| 19 | Frequency of Ratings of Attitude Toward Military Service as Given by Military Food Service Workers Categorized by Rank | 56 |
| 20 | Mean Responses to the Job Description Index (JDI) at Loring, AFB Pre- and Post-Test, at Three Air Force Bases, and in a Civilian Normative Sample | 59 |
| 21 | Responses of Workers in Comparing Their Jobs Under BAS/A La Carte and the Traditional System (Percentages) | 61 |
| 22 | Percentages of Post-Test Workers Expressing Preference for the BAS/A La Carte and the Traditional Food Service System. | 62 |

LIST OF TABLES (Cont.)

| <u>Table No.</u> | | <u>Page</u> |
|------------------|--|-------------|
| 23 | Ease of Job in BAS/A LaCarte vs. Traditional Food Service System (Percentages) . . | 62 |
| 24 | Percentage of Workers Perceiving Differences in Specific Foods Eaten More or Less Often by Consumers After the Change of BAS/A La Carte | 66 |

INTRODUCTION

BAS/A La Carte is a dining system under which all the personnel of an installation (a) receive a food allowance rather than authorization to eat in the dining hall at no cost and (b) pay cash for food in the dining hall on an item-by-item rather than on a whole-meal basis. Although first implemented in October, 1972, at Shaw AFB, SC, this system has yet to be rigorously tested in terms of its consumer and food service worker acceptability. The Behavioral Sciences Division of the U.S. Army Natick Development Center, MA, did collect survey and interview data from the consumers at Shaw AFB, but only after BAS/A La Carte had already been introduced (Siebold & Meiselman, 1974). Consequently, even though these data indicated that the Shaw AFB consumers were generally more satisfied with their dining hall than were their counterparts at bases with traditional facilities, they do not comprise firm evidence of the success of the system. Because no "pre-test" data were available, it is not clear whether BAS/A La Carte caused a positive shift in consumer attitudes or whether the attitudes of the Shaw airmen were relatively positive even before the test began. Furthermore, the shift to BAS/A La Carte at Shaw AFB was accompanied by a variety of other changes (e.g., increasing the food service staff, redecorating the interior and exterior of the building, improving the cooking equipment), any one of which could have influenced consumer opinion even though it was not directly related to the BAS/A La Carte concept.

A proper test of BAS/A La Carte required collecting consumer and worker data both before and after shifting systems, in a setting where other changes were minimized. Such an opportunity was provided at Loring AFB, ME, where BAS/A La Carte was implemented in January 1975, under a concerted effort to alter only that which was required to operate the new system (e.g., rerouting consumer traffic, increasing menu selection, adding food warmers to the serving line). In November 1974, staff of the Behavioral Sciences Division collected interview and survey information from the Loring airmen and food service workers regarding their opinions of the current traditional system and of the proposed BAS/A La Carte changes. Similar data were obtained in mid March 1975, two and a half months after the conversion to the new system. This report describes the effect of BAS/A La Carte on consumer and worker attitudes as measured by these interviews and surveys. Attention is focused on shifts in consumer and worker attitude from before to after BAS/A La Carte rather than on how positive or negative the attitudes were at one or the other time.

Throughout the study, a distinction was made between persons who received BAS (a monetary allowance for food) both before and after BAS/A La Carte and those who were formerly receiving RIK

(authorization to eat in the dining hall at no cost). This distinction is important because these two groups have been shown to differ in terms of demographic composition (BAS are older, more likely to be married, more likely to live off base, etc.) utilization of the dining hall (BAS attend less frequently), and attitude toward the dining service of food service systems (BAS are generally less critical) (e.g., Branch, Meiselman & Symington, 1974). Because of these differences, it was not unlikely that the groups would differ in their reaction to BAS/A La Carte, especially since they were affected in different ways, the principal change for RIK airmen being the receipt of money for food and for BAS airmen being the payment for food in the dining hall on an item-by-item basis. This supposition was supported by the data collected at Shaw AFB where a variety of attitudinal differences were exhibited by the two groups (Siebold & Meiselman, 1974).

Before discussing the findings of this study, cautionary comments are required concerning two biasing effects which have been shown to influence the reports of subjects in situations such as the present one: The Hawthorne effect and the halo effect. The former refers to temporary improvements in attitude or performance which occur when persons receive special attention, regardless of the form that attention assumes (Roethlisberger & Dickson, 1939). In the present context, this effect would appear as temporary changes in consumers' attitudes due exclusively to their having been chosen as the subject population for this test. Because of this possibility, the post-test was delayed until two and a half months after BAS/A La Carte had been introduced and a long-term test was conducted 10 months after the system change. (This report concerns the changes in attitude from the pre-test to the former, short-term, post-test. The findings of the latter, long-term, post-test will be published as a separate report.)

The halo effect refers to the tendency of persons who are favorably impressed with a single trait of an object (or with a subset of its traits) to rate the object highly on other unrelated traits. This would be evidenced in the present case by shifts in attitudes toward dining service features which remained unchanged in the conversion to BAS/A La Carte. This is not to mean that such shifts should be automatically disregarded, however, since the BAS/A La Carte changes may have exerted subtle influences on factors seemingly unrelated to it. For example, an incidental effect of BAS/A La Carte may have been improved food planning which, in turn, may have reduced the amount of leftovers. From a consumer standpoint, therefore, one benefit of the new system might have been less stale, dried out food even though this would superficially seem unrelated to the conversion to BAS/A La Carte.

METHOD

Similar procedures were followed in collecting consumer and worker data before the implementation of BAS/A La Carte (pre-test) and after (post-test). At both times, surveys and interviews were administered to samples of the base enlisted population and to the majority of the food service workers.

Consumer Instruments

Surveys

Two different surveys were used in collecting consumer data - the Consumer Opinions of Food Service Systems (COFSS) Survey (1974 edition) and the Alternative Rations Systems (ARS) Survey. The former was originally designed in 1972 by the Behavioral Sciences Division of the U.S. Army Natick Development Center as a general instrument with which to assess consumers' food behavior (frequency of eating in the dining hall, other places meals are obtained, etc.) and their opinions of a broad range of factors involved in dining hall service - the food, the service, and the facility.

The ARS survey is a single-page questionnaire developed by the Behavioral Sciences Division which requires respondents to indicate which of a variety of ration systems they would most and least prefer, and then to rate each one on a variety of scales. Attached to the COFSS survey, it was completed at the same time and by the same persons who completed the larger COFSS survey. A copy of both survey forms is contained in Appendix A.

The preferred method of collecting survey data of the present type is to randomly select participants from a list of the population under study so that the chosen sample is representative of the population. This probability sampling technique was infeasible in the current situation because an up-to-date, accurate listing of the base enlisted population was not available and also because the cost and time required to obtain the selected sample, given the high absentee rate experienced in previous survey work, would be prohibitive. Consequently, the decision was made to insure stability of the data by surveying large numbers of airmen. The specific procedure was to request the commander or first sergeant of each major work unit to send a specified number of men to a specified location at any of a number of specified times, leaving to the commander or first sergeant the choice of who would actually participate. As anticipated, fewer than the requested

number typically appeared at the survey sessions. (For two units, pre-test surveys were administered immediately after a mandatory commander's call.) In this fashion, surveys were collected from 325 men (10% of the base population) before the conversion to BAS/A La Carte and 264 men (8%) afterwards.

The survey was administered at both times by senior staff members of the Behavioral Sciences Division to groups, ranging in size from 20 to 115 airmen, at a variety of locations on the base. Respondents were told the background of the study, given explicit instructions about a few of the more complex items, encouraged to ask questions in the event of any uncertainty, cautioned about discussing the questions among themselves, and then allowed to complete the survey at their own individual pace, which typically ranged from 40 to 60 minutes.

Since the respondents provided no individual identification, the samples chosen for the pre- and post-test surveys were independent of one another. A problem which arose during the post-test was to identify personnel previously on RIK so their responses could be compared with those of the RIK's who took the pre-test survey. The survey question regarding rations status was not functional because all post-test respondents were on BAS. However, since 95% of the RIK personnel completing the pre-test survey were reportedly of rank E-1 through E-3 and living in bachelor quarters, these criteria were used to categorize post-test respondents as formerly on RIK or formerly on BAS. In so doing, 178 (55%) of the 325 post-test respondents were defined as formerly on RIK, compared with 128 (48%) RIK's of the 264 pre-test respondents. (Airmen who were on RIK previous to BAS/A La Carte will be referred to as the "RIK respondents" or simply "RIK's" whereas those who were on BAS even before the new system will be called the "BAS respondents" or BAS's.")

Interview

In addition to the surveys, interviews were conducted to gather in-depth information specific to the BAS/A La Carte changes and how they would or did influence the respondents' food behavior. The interviews were administered on a one-to-one basis at the respondents' work sites by three Behavioral Science staff members and typically required 15-20 minutes to complete, including a brief introduction pertaining to the background of the study. A copy of the interview protocol is contained in Appendix B.

Thirty-eight questions were covered in the pre-test interview and 57 questions in the post-test interview. A portion of the questions in each case required the interviewee to choose one of five scaled responses printed on a card which the interviewer placed in front of him. Other questions were of an open-ended nature, allowing the respondent to provide as much information as he wished, only being asked whether there was anything else he would like to add each time he appeared to have finished responding. At a later date, these responses were tallied independently by two members of the Behavioral Sciences Division with categories based on the raw data. Specifically, a dual level system was devised in which a response was first classified according to the general area of food service it addressed (e.g., food, dining atmosphere, etc.), and then according to its specific content (e.g., regarding food: increase variety, nutritionally adequate, etc.) Following this method, agreement was reached by the judges in 86.5% of the cases, the remaining responses being categorized after discussion and consensus between the judges.

Since one of the post-test interview questions pertained to the respondent's ration status prior to BAS/A La Carte, it was possible to identify men previously on RIK and previously on BAS. Fifty of each type were interviewed during both tests. Forty of the post-test interviewees had also been interviewed during the pre-test. For both the pre- and post-test, the interview sample was stratified according to the work unit of the respondents. Thus, if a given work unit contained 10% of the enlisted population, approximately 10 men were selected from the unit for interviewing.

Worker Instruments

Surveys and interviews were administered to 25 military and 24 civilian workers in the pre-test and to 30 military and 29 civilian workers in the post-test phase during the same weeks the customer work was performed. These respondents were taken from the main, alert, and in-flight dining facilities. Many of the civilians (19) and almost half of the military workers (14) were surveyed/interviewed in both the pre- and post-test phases.

Survey

The survey was administered in both the pre- and post-test phases to individual workers by a senior Behavioral Sciences Division staff member (See Appendix C for a copy of the survey form). In both instances, data first were collected concerning demographic

characteristics of the workers which might affect job satisfaction: rank or grade level, age, time in food service, and attitude toward the military service (military personnel only). Next, workers were given the Job Description Index (JDI) (Smith, Kendall, & Hulin, 1969), a standard pencil and paper instrument which measures satisfaction in five areas (the work itself, the supervision, the co-workers, the opportunities for promotion, and the pay). Each area is evaluated by positive, negative, or neutral responses to a list of adjectives or descriptive phrases (18 words and phrases each for work, supervision, and co-workers; nine each for pay and promotions).

Interview

Two different interviews were conducted with both civilian and military workers, one in both the pre- and post-tests and a second in only the post-test. The former dealt with training in food service, and workers' opinions of the advantages and disadvantages of BAS/A La Carte compared to the traditional military food service system. (During the post-test, five of the 59-man sample were not given this interview since they had never worked under the traditional system.)

In the second interview, post-test respondents were asked about their perceptions of the effect of BAS/A La Carte on consumer satisfaction, an approach somewhat different from the usual procedure of limiting questions to the worker's own role in the system (e.g., Symington & Meiselman, 1975).

RESULTS

Consumer Interviews and Surveys

Demographic Data

In order to draw clear comparisons between the interview and survey responses of the pre- and post-test samples, it was necessary to assure that the two groups were comprised of similar airmen. If systematic differences did exist, it would become uncertain whether any pre-post shift in attitude was due to the implementation of BAS/A La Carte or to the differences between the airmen questioned at the two times. For this purpose, survey respondents were asked for their age, time in service, grade, sex, race, marital status, living arrangement, the number of installations to which previously assigned, population of the area in which raised, intent to reenlist (on a 5-point scale), and attitude

toward the military service (also on a 5-point scale). Interview respondents were asked only for their age, time in service, marital status, and intent to reenlist (on a 3-point scale).

No differences were found for any of the survey items between the RIK and BAS airmen's pre- and post-test responses (1)¹ with the exception of the number of installations to which the airmen were previously assigned, post-test BAS's reporting slightly more than the pre-test BAS's (no difference occurred for the RIK airmen) (2)². No differences occurred among any of the interview items. Consequently, one may assume that the pre-post shifts in attitude reported in this paper are not due to demographic differences between the sampled airmen.

Effect of BAS/A La Carte on Attitudes Toward That and Other Food Systems

A number of interview questions pertained directly to the BAS/A La Carte food system, the first simply concerning what the airmen knew about the new system. Roughly 90% of both the BAS and the RIK airmen interviewed during the pre- and post-tests were aware that changes were planned or implemented. The groups were also similar in their accuracy of specifying what these changes involved, approximately 85% of each group's comments naming changes that were planned and implemented. The most common inaccuracies concerned improvements in food preparation (5% of each group's responses) and remodeling of the dining hall (3-4% of each group's responses), neither of which was planned nor implemented. Thus, the respondents appear to have been relatively well informed about BAS/A La Carte and what it involved.

The switch to the new system had little influence on the respondents' preferences between receiving separate rations or rations-in-kind (authorization to eat in the dining hall at no cost). No BAS airmen, either before or after BAS/A La Carte

¹ Numbers in parentheses refer to statistical analyses, the results of which are contained in Appendix D.

² This difference is of minimal significance since previous research has shown this factor bears little relationship to attitudes about the dining hall service (Siebold & Meiselman, 1974).

One possible demographic source of bias remained unassessable. During the pre-test, 34% of the survey sample was obtained from one work unit. It is possible, although not particularly feasible, that idiosyncratic characteristics of this unit influenced these respondents survey reports.

hoped for the latter alternative. Similarly, most RIK's preferred separate rations, although 12% in each case did say they would rather receive rations-in-kind. The main reason given by those selecting separate rations was that it provided flexibility in choosing where to eat, as well as an opportunity to save money. Those preferring rations-in-kind, on the other hand, most often said that they would or did run into budgetary problems when receiving separate rations or that they would or were losing money because they ate too much.

Airmen were also asked their opinion of an all-BAS policy. Interestingly, a sizable minority (14-24%) of the pre- and post-test BAS's and RIK's were in opposition to giving separate rations to everyone. (Table 1). Among the RIK respondents, these were mainly (61%) persons who wished to remain on rations-in-kind, themselves. Most (83%) of the BAS respondents who opposed an all-BAS policy felt that some airmen, particularly younger ones, would have budgetary problems. This attitude was also expressed somewhat frequently among older airmen at Shaw AFB. The specific concern was that younger airmen would or did spend their separate rations allowance injudiciously and, as a result, would or did have little money for food toward the end of the pay period.

To further investigate this issue, airmen were asked during the post-test interview whether their food habits changed during the pay period. Of the 16 (32%) RIK's and 11 (22%) BAS's who responded affirmatively, 12 and 9, respectively, indicated the change was presumably negative; i.e., cheaper foods, fewer meals, less food at meals. In addition to this general question, all respondents were specifically asked if, toward the end of the pay period, they ate any more or less food at meals; if they ate any more or less often, in general; and if they ate any more or less often in the dining hall. Considerably more respondents reported changes when asked these specific questions than when asked the previous, more general, question (Table 2). However, these reported changes do not necessarily support the allegation that BAS/A La Carte would or did have deleterious effects on the eating habits of you airmen since: (a) they reportedly occurred for only a minority of the respondents; (b) there is no evidence that they did not occur under the traditional system; and (c) they were reported by older BAS airmen as well as by the younger RIK airmen (although RIK's reported a change more often than BAS's, the differences did not achieve statistical significance).

Table 1

Mean Ratings of an All-BAS Policy
by Pre- and Post-Test BAS's and RIK's

| | <u>Pre</u> | <u>Post</u> |
|------------|------------|-------------|
| <u>BAS</u> | 3.98 | 3.94 |
| <u>RIK</u> | 4.10 | 4.10 |

Scale: 1 - Extremely Oppose
2 - Slightly Oppose
3 - Don't Care
4 - Slightly Support
5 - Extremely Support

Table 2

Percentage of Post-Test BAS's and RIK's Reporting
Changes in Food Habits Over the Pay Period

Do You Eat Any More or Less Food at a Meal?

| | <u>RIK</u> | <u>BAS</u> |
|-------------|------------|------------|
| <u>No</u> | 56 | 67 |
| <u>Less</u> | 40 | 33 |
| <u>More</u> | 4 | 0 |

Do You Eat Any More or Less Often?

| | <u>RIK</u> | <u>BAS</u> |
|-------------|------------|------------|
| <u>No</u> | 69 | 88 |
| <u>Less</u> | 27 | 13 |
| <u>More</u> | 4 | 0 |

Do You Eat in the Dining Hall Any More or Less Often?

| | <u>RIK*</u> | <u>BAS*</u> |
|-------------|-------------|-------------|
| <u>No</u> | 67 | 44 |
| <u>Less</u> | 20 | 8 |
| <u>More</u> | 10 | 20 |

* The remainder do not eat in the dining hall

Unlike opinions concerning separate rations, attitudes toward the item- versus meal-pricing issue were influenced by BAS/A La Carte. During the pre-test, neither system was clearly preferred by either the BAS or RIK group, whereas after experiencing BAS/A La Carte a majority of both groups expressed a preference for item pricing (Table 3) (3). (This shift was statistically significant for the BAS's, but not for the RIK's. Only persons who reportedly had eaten meals in the dining hall since BAS/A La Carte were asked their preference.) There did remain, however, a substantial number of persons (22% of the BAS's and 40% of the RIK's) who would rather have meal pricing. The main reason they gave was that meal-pricing allowed them to get more food for their money in comparison to paying by the item. There were three main reasons given by those desiring item pricing. First, item-pricing provided the freedom of paying for only those things the customer wanted. Second, it gave the airmen an opportunity to save money. And, third, it reportedly created less food waste. (See Appendix E for a complete breakdown of the responses.) It is noteworthy that airmen at Shaw AFB gave similar reasons, even though they expressed a stronger preference for item-pricing (82%) than the Loring airmen (63% overall).

Additional information regarding attitudes toward food systems was available from the Alternative Rations Survey, in which respondents "designed" their best rations system by making three decisions: (a) whether all persons or only some should receive separate rations; (b) whether dining halls should be run by the government or by civilian contractors; and (c) whether payment should be for the entire meal, for only the items taken, or for a "special", "regular", or "short order" meal. Subsequently, respondents rated their best system on four scales, pertaining to attendance, waste, economic value, and overall favorability. (The same process was repeated to specify and rate a worst system. In this report, however, attention will be paid only to responses concerning the best system.)

The above three decisions generate 12 possible systems, which are listed in Table 4 along with the proportion of each group which selected each system. An all-BAS, item-pricing system run by civilians was the most popular system among BAS's and RIK's both before and after BAS/A La Carte. The proportion of BAS and RIK groups choosing either of the two all-BAS, item-pricing systems (one run by the government and the other by civilians) increased from pre- to post-test, 49% to 61% for the BAS group and 40% to 46% for the RIK group, although in neither case was the increase statistically significant. This shift was mainly

Table 3

Mean Ratings of Item-Pricing by
Pre- and Post-Test BAS's and RIK's

| | <u>Pre</u> | <u>Post</u> |
|------------|------------|-------------|
| <u>BAS</u> | 2.90 | 4.14 |
| <u>RIK</u> | 2.84 | 3.22 |

Scale: 1 - Extremely Prefer Meal-Pricing
 2 - Slightly Prefer Meal-Pricing
 3 - No Preference
 4 - Slightly Prefer Item-Pricing
 5 - Extremely Prefer Item-Pricing

Table 4

Twelve Food Systems and the Percentage of Pre- and
Post-Test BAS's and RIK's Choosing Each

| All BAS vs. BAS/RIK | Civilian vs. Government Operation | Meal- vs. Item- vs. Varied-Pricing | BAS | | RIK | | <u>TOTAL</u> |
|---------------------|-----------------------------------|------------------------------------|------------|-------------|------------|-------------|--------------|
| | | | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> | |
| | | | | | | | |
| All | Civ | Item | 38 | 45 | 36 | 33 | 38 |
| All | Civ | Varied | 18 | 8 | 21 | 9 | 14 |
| All | Gov | Item | 11 | 16 | 4 | 13 | 11 |
| B/R | Civ | Item | 6 | 6 | 7 | 9 | 7 |
| B/R | Civ | Meal | 4 | 4 | 12 | 6 | 6 |
| B/R | Civ | Varied | 4 | 4 | 5 | 4 | 4 |
| All | Gov | Varied | 5 | 6 | 2 | 4 | 4 |
| B/R | Civ | Meal | 2 | 4 | 2 | 7 | 4 |
| B/R | Gov | Item | 2 | 4 | 3 | 5 | 4 |
| B/R | Gov | Varied | 4 | 1 | 4 | 4 | 3 |
| All | Gov | Meal | 4 | 2 | 1 | 1 | 2 |
| B/R | Gov | Meal | 1 | 2 | 2 | 3 | 2 |

due to an increase in choices of item-pricing systems, which agrees with the ratings of item-pricing reported above. Two additional points deserve note. First, a substantial proportion of all groups (23%-38%) selected a BAS/RIK system over an all-BAS one. And, second, the system chosen least often (1-3% of the groups) was the traditional government-run, BAS/RIK, meal-pricing system.

With respect to the ratings respondents gave to the systems they designated best, exposure to BAS/A La Carte did not influence the frequency with which persons reportedly would have meals in the dining hall or their opinion of the amount of plate waste which would occur if the system they designated as best was implemented. It was noteworthy that the EAS and RIK respondents said they would have only an average of 4.74 and 9.29 meals per week, respectively, in the dining hall, which was essentially equivalent to their current reported attendance rates (see next section).

The third rating concerned economics and here the BAS airmen rated their best systems as less of a good deal after having been exposed to BAS/A La Carte than before (4), although the ratings were still quite high (Table 5). This shift, which parallels the pre-post shift in the proportion of EAS's who choose item-pricing as part of their best system, might indicate that these airmen were not overly impressed with item-pricing from an economic standpoint, although they still generally favored that type of system.

The fourth rating scale, overall opinion, revealed a similar situation - both the BAS and RIK groups gave significantly less positive ratings after BAS/A La Carte than before (5) (Table 5). One possible explanation of this finding, similar to that given for the previous ratings, is that the men did indeed like BAS/A La Carte, but not as much as they had anticipated.

SUMMARY: Both BAS's and RIK's were generally well informed about BAS/A La Carte. Opinions about item-pricing were enhanced after exposure to the system, to the point that it was favored by the majority of respondents, although support of an all-BAS policy remained at roughly 75% pre- and post-test. A reason frequently voiced in opposition to this policy was that younger men would be unable to budget their food money; and, in fact, a number of RIK's did report a change in their food habits over the pay period, but so did a number of BAS's. When given a chance to designate what type of food system they most preferred, the

Table 5

Mean Economic Rating of "Best" System by Pre- and Post-Test BAS's and RIK's

| | <u>Pre</u> | <u>Post</u> |
|------------|------------|-------------|
| <u>BAS</u> | 4.22 | 3.86 |
| <u>RIK</u> | 3.99 | 3.76 |

Scale: 1 - An Extremely Bad Deal
 2 - A Slightly Bad Deal
 3 - Neither a Good Nor Bad Deal
 4 - A Slightly Good Deal
 5 - An Extremely Good Deal

Meal Overall Rating of "Best" System by Pre- and Post-Test BAS's and RIK's

| | <u>Pre</u> | <u>Post</u> |
|------------|------------|-------------|
| <u>BAS</u> | 4.49 | 3.91 |
| <u>RIK</u> | 4.35 | 3.75 |

Scale: 1 - Extremely Unfavorable
 2 - Slightly Unfavorable
 3 - Neither Favorable Nor Unfavorable
 4 - Slightly Favorable
 5 - Extremely Favorable

majority of both pre- and post-test groups selected an all-BAS, item-pricing system, even though overall ratings of their best systems declined from pre- to post-test.

Effect of BAS/A La Carte on Reported Attendance in the Dining Hall

A major goal underlying BAS/A La Carte was originally to increase attendance in the dining hall. A number of questions relating to this issue were included in both the pre- and post-test interviews and surveys. The reader should be cautioned, however, that these self-reports are not necessarily accurate indices of actual attendance. In fact, data from Shaw AFB suggest that they tend to overestimate real attendance (report to be published).

In the pre-test interview, RIK respondents were asked whether they felt their attendance would be influenced by conversion to BAS or by an item-pricing arrangement. The latter question was also asked of BAS respondents. RIK airmen predicted that both changes would lead to a net decrease in their attendance, particularly the all-BAS policy which would reportedly result in 54% of the respondents attending less often. Of the BAS group, 40% felt they would attend more often under item-pricing, in comparison to only 10% who felt they would attend less often (Figure 1). (It should be recalled that item-pricing did not receive a majority endorsement from either group during the pre-test.) It appeared from these data, therefore, that BAS/A La Carte would produce a substantial decrement in RIK attendance and a moderate increase in BAS attendance.

Data in agreement with these predictions were gathered from the post-test interviewees, who were asked the frequency with which they had meals in the dining hall both currently and before BAS/A La Carte. As shown in Table 6, the majority (58%) of RIK's reported they were attending less often now than before, whereas the majority of BAS's (60%) said their attendance was the same. The mean reported frequencies before BAS/A La Carte and currently were 10.74 (standard deviation - 6.06) and 8.02 (5.53), respectively, for the RIK's and 3.44 (4.74) and 3.88 (4.93), respectively, for the BAS's. Only the RIK figures represented a statistically significant difference. In comparison, Shaw airmen taken together reported eating an average of 4.95 meals per week in the dining hall, which was significantly less often than reported by airmen from bases with traditional facilities.

FIGURE 1

PERCENTAGE OF RESPONSES OF PRE- AND POST-TEST BAS'S AND RIK'S
TO QUESTION OF WHETHER ATTENDANCE WOULD INCREASE OR
DECREASE AS A RESULT OF ITEM PRICING

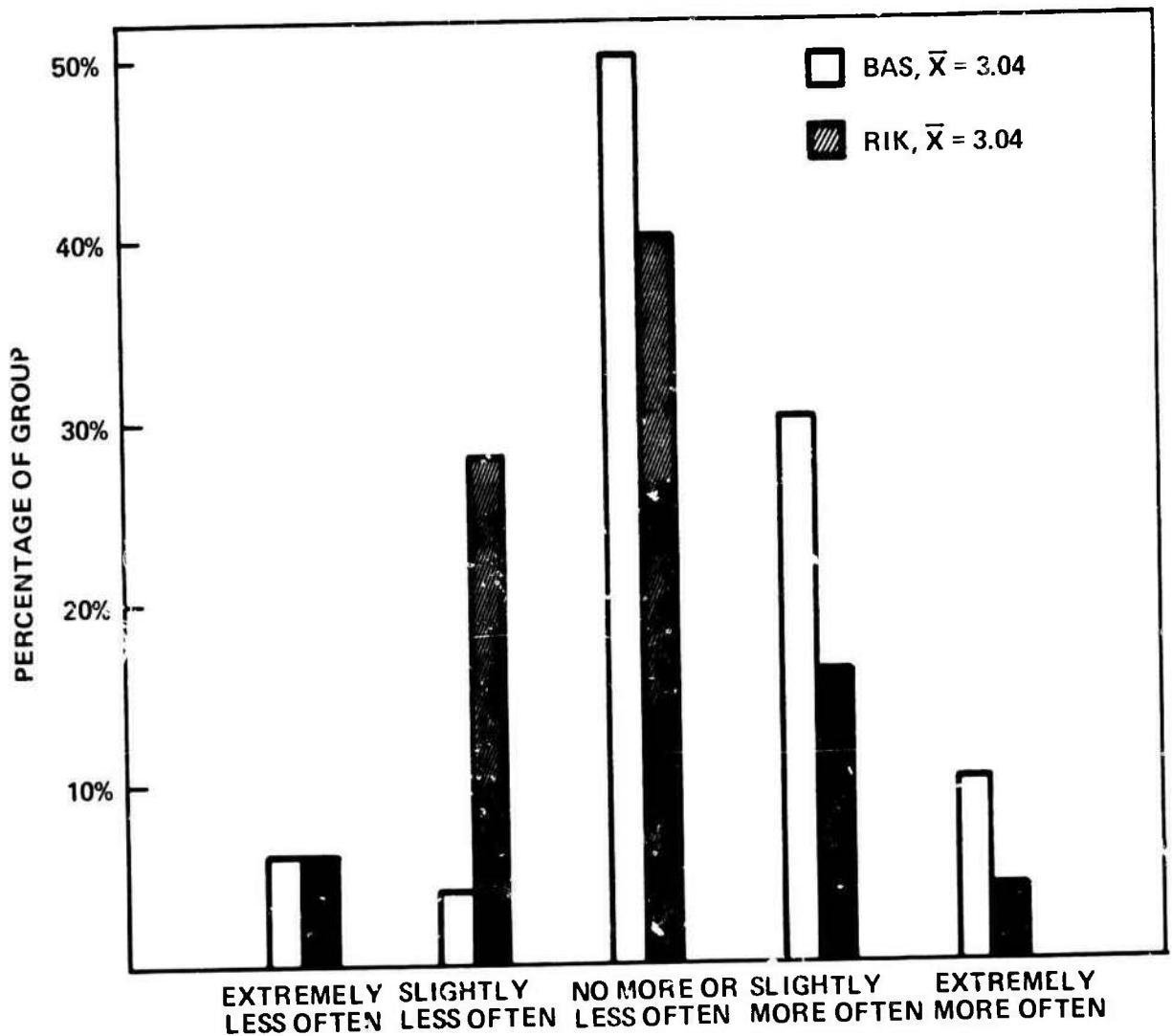


Table 6

Percentage of Post-Test BAS's and RIK's Whose Attendance
Reportedly Increased, Remained the Same, or Decreased
as a Result of BAS/A La Carte

| | <u>Increase</u> | <u>Same</u> | <u>Decrease</u> |
|------------|-----------------|-------------|-----------------|
| <u>BAS</u> | 26 | 60 | 14 |
| <u>RIK</u> | 20 | 22 | 58 |

Respondents who reported eating in the dining hall more or less frequently now than before BAS/A La Carte were asked whether item-pricing had influenced this reported change in attendance frequency. In general, persons whose attendance had reportedly increased were significantly more likely to respond in the affirmative than were persons whose attendance had reportedly decreased (Table 7) (7). Thus, although the impact of item-pricing on attendance was not unidirectional, it seemingly did do more to increase attendance (particularly among the BAS's) than to decrease it.

A similar question concerning conversion to separate rations was asked of the RIK respondents whose attendance had reportedly changed after BAS/A La Carte. As would be expected, the shift in ration status was more often related to decreases in attendance (79%, 22 of 29) than to increases (45%, 5 of 11), although the difference in percentages was not statistically significant. As with item-pricing, then, the conversion of RIK's to separate rations apparently caused some to attend less often and others to attend more often.

The last interview question relating to attendance asked why interviewees did not eat in the dining hall more often than they currently did, with the intent of determining whether these reasons changed as a result of BAS/A La Carte. The question had two parts, the first asking for the one main reason respondents did not attend more often and the second asking for any other reasons. The responses fell into seven categories (see Table 8). When the responses of the pre- and post-test BAS and RIK respondents were divided among these categories, it was found that not only did BAS's and RIK's respond similarly, but also that the pre- and post-test responses did not differ significantly. Consequently, although BAS/A La Carte did influence how often airmen reportedly ate in the dining hall, it did not affect the reasons they reported for not attending more often.

Overall, half of the main reasons pertained to habits of the respondents which conflicted with eating in the dining hall (Table 8). These most frequently referred, for the BAS's, to eating at home with families and, for the RIK's, to eating in their barracks, with girlfriends, or with other friends off-base. When combined with the comments pertaining to convenience (many reported that simply getting to the dining hall during the serving hours was difficult), these data indicated that the primary factors preventing increased attendance are presently outside the control of the Air Force food service. A similar finding was obtained at

Table 7

Frequency of Responses to Question of Whether Item-
Pricing Influenced Reported Changes in Attendance
Frequency Among Post-Test BAS's and RIK's

| | BAS | | RIK | |
|------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| | <u>Increased Attendance</u> | <u>Decreased Attendance</u> | <u>Increased Attendance</u> | <u>Decreased Attendance</u> |
| <u>Yes</u> | 11 | 3 | 5 | 5 |
| <u>No</u> | 2 | 2 | 4 | 23 |
| <u>Uncertain</u> | 0 | 1 | 2 | 1 |

Table 8

Main and Other Reasons for Relative Non-Attendance As
Given by Pre- and Post-Test BAS's and RIK's
(In Percentages)

| | <u>Main Reason</u> | | | | |
|----------------------|----------------------|-------------|------------|-------------|--------------|
| | <u>BAS</u> | | <u>RIK</u> | | <u>Total</u> |
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> | |
| <u>Convenience</u> | 10 | 18 | 16 | 6 | 12 |
| <u>Food</u> | 20 | 8 | 28 | 30 | 22 |
| <u>Environment</u> | 4 | 2 | 12 | 6 | 6 |
| <u>Service</u> | 0 | 0 | 0 | 0 | 0 |
| <u>Other Habits</u> | 54 | 60 | 36 | 52 | 50 |
| <u>Expense</u> | 10 | 4 | 0 | 0 | 4 |
| <u>Miscellaneous</u> | 2 | 8 | 8 | 6 | 6 |
| | <u>Other Reasons</u> | | | | |
| <u>Convenience</u> | 16 | 18 | 11 | 14 | 15 |
| <u>Food</u> | 22 | 27 | 46 | 29 | 31 |
| <u>Environment</u> | 11 | 14 | 16 | 11 | 13 |
| <u>Service</u> | 11 | 0 | 5 | 7 | 8 |
| <u>Other Habits</u> | 27 | 14 | 9 | 21 | 18 |
| <u>Expense</u> | 9 | 18 | 2 | 7 | 9 |
| <u>Miscellaneous</u> | 4 | 9 | 12 | 11 | 9 |

Shaw AFB (Siebold & Meiselman, 1975).

There were also a substantial number of pre- and post-test respondents (primarily RIK's) who cited problems with the dining hall food as the main reason they did not attend more often. In addition, this factor was the most frequent "other" reason given for not attending more. The problems mentioned most often were quality of preparation, taste, and variety (not at a particular meal, but over days), which have traditionally been sources of complaint among Air Force consumers (e.g., Branch, Meiselman, & Symington, 1974). More information on attitudes toward the dining hall food will be given in a later section of this report, as will further details concerning opinions about the dining environment, another reason given for not attending more often. These latter responses most often concerned the general atmosphere and the crowded conditions (especially for pre-test). Expense, it is interesting to note, received relatively little attention as a reason for nonattendance. (See Appendix E for a complete listing of interview responses.)

SUMMARY (Interview): BAS/A La Carte reportedly led to a moderate increase in BAS attendance and a more substantial decrease in RIK attendance, as predicted by the pre-test respondents. Although the impact of item-pricing was primarily to increase attendance (especially among BAS's), there were some who said it caused them to go less often. Similarly, conversion to separate rations reportedly decreased many RIK's attendance, but also increased that of others. Despite these attendance shifts, the reasons given by respondents for not attending more remained the same from pre- to post-test, referring most often to factors unrelated to food service.

More detailed data on attendance were available from the pre- and post-test surveys. One survey question required respondents to indicate how often they ate breakfast, mid-day, evening, and after-evening meals during a typical week, regardless of where they ate them. No pre-post differences were found, i.e., both BAS's and RIK's reportedly ate no more or less often in general after BAS/A La Carte than before. The frequencies reported by the combined pre- and post-test groups are shown in Table 9. Two details of this figure are of particular interest. First, BAS's and RIK's reported nearly identical meal patterns and, second, the overall mean number of meals both groups reportedly ate during a week (17.42 for the BAS's and 16.34 for the RIK's) was substantially less than the 21-meal figure typically used to determine dining hall utilization.

Table 9

General Mean Weekly Meal Frequencies Reported by BAS and
RIK Survey Respondents (Combined over the
Pre- and Post-Tests)

| | <u>Breakfast</u> | <u>Mid-day</u> | <u>Evening</u> | <u>After-Evening</u> | <u>Total</u> |
|------------|------------------|----------------|----------------|----------------------|--------------|
| <u>BAS</u> | 3.42 | 5.40 | 5.99 | 2.61 | 17.42 |
| <u>RIK</u> | 2.65 | 5.60 | 5.52 | 2.58 | 16.34 |

A second survey question was identical to the first except that it concerned meals eaten in the dining hall³. By dividing these responses by those given to the first question, measures were obtained of the proportion of meals reportedly consumed in the dining hall. Overall, BAS's reportedly ate 5.48% of their meals in the dining hall prior to BAS/A La Carte and 10.16% after, a significant increase. In contrast, the proportion of meals RIK's reportedly ate in the dining hall decreased significantly from 38.16% to 30.03%.⁴ This respective increase and decrease pattern was found for all meals with the exception of the after-evening meal (Figure 2 - Note that this figure depicts percentages of meals eaten in the dining hall and, therefore, does not represent absolute frequencies of attendance.) Despite these shifts, RIK's reportedly still ate a significantly greater proportion of each type of meal in the dining hall than BAS's after BAS/A La Carte as well as before. The largest differences between the two groups, both pre- and post-test, occurred at breakfast and the mid-day meal (8).

Since a large segment of the meals eaten by the BAS and RIK groups reportedly was outside the dining hall, it was of interest to determine exactly where these meals were eaten. Information on this issue was available from a survey question which listed a variety of dining establishments, requiring the respondent to rate the weekly frequency with which he had meals at each (Table 10). The most popular non-dining hall location both pre and post-test was at home or at some other private

³ Due to response errors, 99 of the 542 survey respondents were eliminated from the analysis. These persons reported, for at least one meal, having more meals in the dining hall than in general. The majority of these airmen were RIK's.

⁴ In terms of proportions, BAS interviewees reported an increase from 22% to 25% and RIK interviewees reported a decrease from 69% to 52%. The dissimilarity of these proportions with those of the survey respondents (which is certainly too large to attribute to demographic differences between the two groups) illustrates the unreliability of absolute self-reported attendance figures, i.e., these data do not constitute accurate indices of how many meals persons eat in the dining hall. Rather, their value would appear to be as gross indices of changes in attendance. Viewed in this way, the survey and interview data agree in indicating a slight increase in BAS attendance along with a substantial decrease in RIK attendance.

FIGURE 2

PERCENTAGE OF MEALS BAS'S AND RIK'S REPORTEDLY
EATEN IN THE DINING HALL PRE- AND POST-TEST

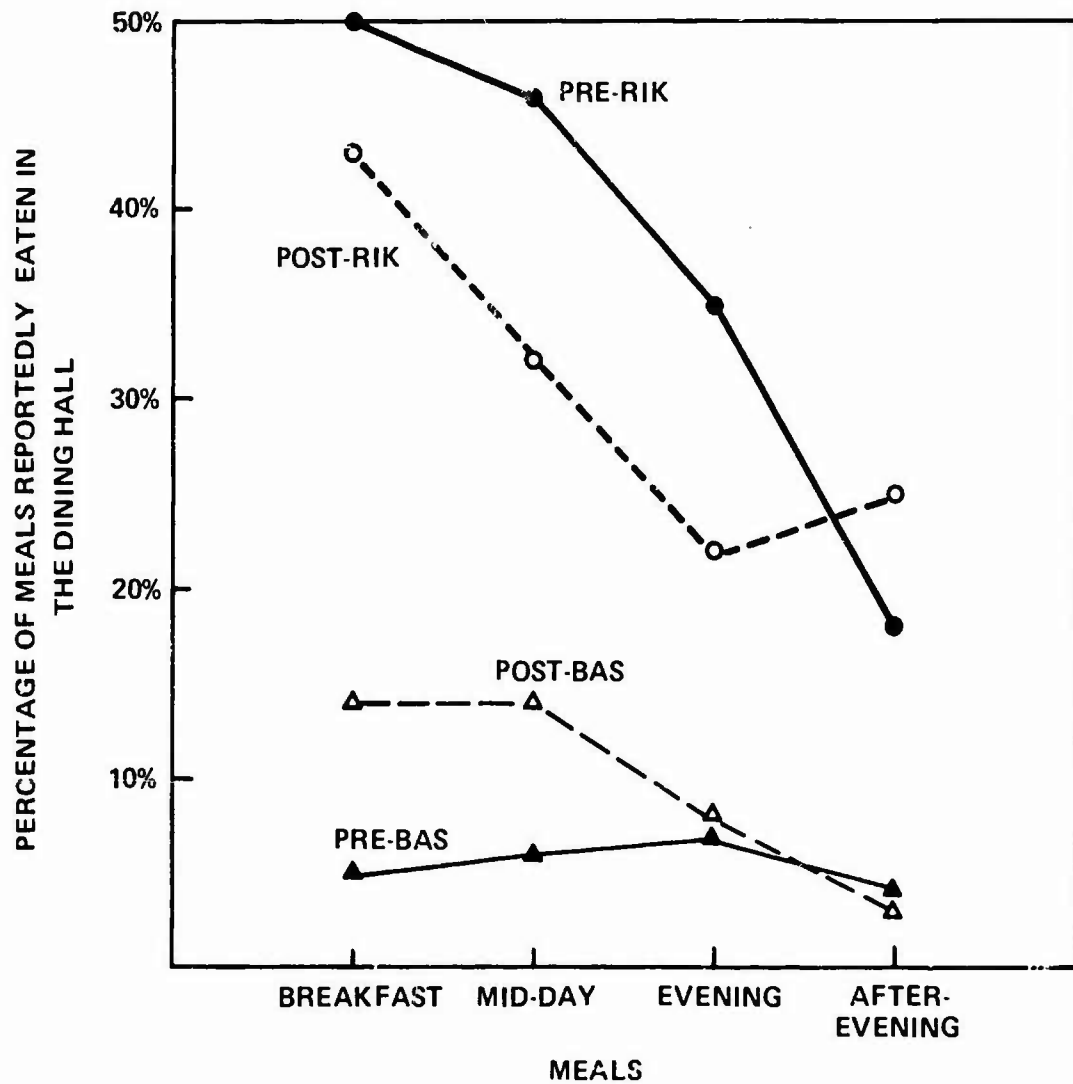


Table 10

Mean Weekly Frequencies With Which Pre- and Post-Test
BAS's and RIK's Reportedly Have Meals in
Non-Dining Hall Establishments

| | <u>BAS</u> | | <u>RIK</u> | |
|------------------------------------|------------|-------------|------------|-------------|
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> |
| <u>Private Residence</u> | 10.88 | 10.86 | 3.64 | 5.23 |
| <u>Other Installation Facility</u> | 1.05 | .90 | .92 | 1.05 |
| <u>Diner, Snack Bar, Etc.</u> | 1.55 | 1.48 | 2.15 | 1.88 |
| <u>Bar and Tavern</u> | .54 | .61 | .88 | .73 |
| <u>Vending Machine</u> | .54 | .74 | .92 | .94 |
| <u>Mobile Snack Truck</u> | .26 | .18 | .51 | .84 |

residence, followed by off-installation facilities (diners, snack bars, etc.). Although this order held for BAS's and RIK's, the frequency with which BAS's reportedly ate in a private residence exceeded the frequency reported by RIK's (9), while the reverse occurred with respect to off-installation facilities (10).

In comparing the pre- and post-test frequencies for each of these places, no statistically significant differences were found for either the BAS's or RIK's. However, in four of the six cases (all but taverns and vending machines), there was a numerical decrease in the frequency reported by BAS's. A reverse pattern was revealed for RIK's, a numerical increase occurring in all but two cases (diners and taverns). Apparently no one type of facility especially gained or lost patronage as a result of BAS/A La Carte.

The final two attendance questions pertained to convenience, a factor which interviewee cited relatively often as the main reason they did not eat in the dining hall more often. The first question required respondents to specify the number of dining hall meals missed per week because of other regularly scheduled activities, and it revealed a significantly higher incidence of such situations among RIK's (an average of 3.21) than among BAS's (an average of 2.28) (11), although this number did not change for either group as a result of BAS/A La Carte.

The second question concerned the amount of time required to get to the dining hall from one's home and work site. With regard to the latter measure, the RIK's were again seemingly more inconvenienced than the BAS's (12), although significantly shorter mean times were inexplicably reported by both groups during the pre-test than during the post-test - 6.14 and 7.58 minutes, respectively, for the BAS's and 7.60 and 8.91 minutes, respectively, for the RIK's (13). No similar pre-post effect was witnessed regarding the home-dining hall time, overall mean times of 8.74 and 5.68 minutes being reported by the BAS's and RIK's, respectively. This difference between groups, however, was again significant (14).

SUMMARY (Survey): RIK's reportedly ate a significantly greater proportion of their meals in the dining hall than did the BAS's, even though the groups were similar in the number of meals they reportedly consumed in general. This difference was maintained in the post-test, even though the BAS and RIK attendance reportedly increased and decreased, respectively, as a result of BAS/A La Carte, a finding in agreement with the interview data and the attendance patterns at Shaw AFB.

Seemingly, these gains and losses were evenly spread among other dining establishments. The survey data further support the interview data in indicating that convenience in getting to the dining hall was a problem among both BAS and RIK respondents.

Effect of BAS/A La Carte on Food Habits in the Dining Hall

In addition to the attendance problem, there was interest in whether BAS/A La Carte influenced food habits in the dining hall. In this regard, pre-test respondents were asked whether any of their food habits might change and post-test respondents whether any habits did change. For the pre-test, 68% of both BAS's and RIK's responded affirmatively, in comparison to 53% and 43%, respectively, during the post-test (only those post-test respondents who had eaten in the dining hall since the implementation of BAS/A La Carte, 31 BAS's and 48 RIK's, were asked this question). Despite the numerical differences, neither the BAS nor the RIK pre-post difference was statistically significant. In general, the types of food habit changes reported by the pre- and post-test airmen were also similar, the one mentioned most often being a decrease in the quantity of food consumed at a meal (Table 11), desserts being particularly cited in this regard (See Appendix E for a complete breakdown of the responses.) Many respondents also said they would be or had been more selective with regard to the foods they ate.

In addition to this general open-ended question, specific questions were asked of the post-test respondents who had eaten in the dining hall since BAS/A La Carte. The first concerned food quantity - "Is the amount of food you eat at a meal in the dining hall any more or less now than before the changes?" Although many said no, there were a number of BAS's (37%) and RIK's (47%) who said they were now eating less. These persons outnumbered those who said they were now eating more (10% of the BAS's and 13% of the RIK's).

When asked whether the types of foods eaten in the dining hall were any different, 62% of the BAS's and 59% of the RIK's said "yes." The types of changes reported are shown in Table 12. (See Appendix E for a complete breakdown of the responses.) Note that, although the previous responses indicated that many airmen were eating less food in general, these data show that some were reportedly eating more of certain items, particularly inexpensive meats.

A third question concerned food waste, a problem BAS/A La Carte reportedly reduced at Shaw AFB. In agreement with these

Table 11

Changes in Food Behavior in the Dining Hall Which Would
or Did Occur as a Result of BAS/A La Carte as
Reported by Pre- and Post-Test BAS's and
RIK's (Frequency and Percentages)

| | <u>BAS</u> | | <u>RIK</u> | | <u>Total</u> |
|--------------------------------|------------|-------------|------------|-------------|--------------|
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> | |
| <u>Improved Nutrition</u> | 1(2) | 0 | 2(4) | 3(13) | 6(5) |
| <u>Deteriorated Nutrition</u> | 2(4) | 0 | 1(2) | 1(4) | 4(3) |
| <u>Decreased Food Quantity</u> | 18(40) | 8(44) | 20(43) | 9(38) | 55(41) |
| <u>Increased Food Quantity</u> | 4(9) | 3(17) | 5(11) | 3(13) | 15(11) |
| <u>Increased Food Quality</u> | 2(4) | 0 | 1(2) | 1(4) | 4(3) |
| <u>Increased Choosiness</u> | 12(27) | 3(17) | 11(24) | 2(8) | 28(21) |
| <u>Increased Food Variety</u> | 1(2) | 1(6) | 2(4) | 2(8) | 6(5) |
| <u>Decreased Food Waste</u> | 4(9) | 1(6) | 2(4) | 3(13) | 10(8) |
| <u>Decreased Food Expense</u> | 1(2) | 0 | 2(4) | 0 | 3(2) |
| <u>Miscellaneous</u> | 0 | 2(11) | 0 | 0 | 2(2) |

Table 12

Frequency (and Percentages) of Changes in Types of
Foods Eaten in the Dining Hall as Reported by
Post-Test BAS's and RIK's

| | <u>BAS</u> | <u>RIK</u> | <u>TOTAL</u> |
|--------------------------------|------------|------------|--------------|
| <u>More of a Specific Food</u> | 8(53) | 9(31) | 17(39) |
| <u>Less of a Specific Food</u> | 0 | 7(24) | 7(16) |
| <u>More of What I Like</u> | 2(13) | 4(14) | 6(14) |
| <u>More Variety</u> | 3(20) | 3(10) | 6(14) |
| <u>More Cheap Food</u> | 1(7) | 1(3) | 2(5) |
| <u>More Nutritious Foods</u> | 1(7) | 3(10) | 4(5) |
| <u>Same Lunch & Dinner</u> | 0 | 2(7) | 2(5) |

Shaw data, a substantial majority of both BAS's (89%) and RIK's (75%) said they did witness less food waste on the part of dining hall customers currently than before BAS/A La Carte.

A final question related to dining habits was included in the survey. It asked respondents to rate each of eight factors on a 3-point scale in terms of its importance in determining what foods they selected in the dining hall. Subjective liking for the food, appearance, and variety were rated highest by BAS's and RIK's both before and after BAS/A La Carte (Table 13). Importantly, caloric content and nutritional value consistently received low ratings. The only rating evidently influenced by BAS/A La Carte was, unsurprisingly, that of the cost factor by the RIK's. It moved from the second least important factor to the fourth most important factor, the latter of which aligns well with the BAS's ranking of this factor.

SUMMARY: BAS/A La Carte was effective in influencing consumers' reported food habits, its primary effect reportedly being a general decrease in the amount of food consumed in the dining hall (particularly desserts) accompanied, however, by a reported increase in the consumption of certain types of items, mainly inexpensive meats. Although liking, appearance, and variety remained the most influential factors in determining food choice, and caloric content and nutritional value among the lowest, the importance of food cost reportedly increased from pre- to post-test for the RIK group, as would be anticipated.

Effect of BAS/A La Carte on Financial Attitudes

The data indicating the increased importance of food cost among RIK's raise the question of how much money these and the BAS respondents were actually spending in the dining hall. When post-test respondents were asked this question about a typical mid-day meal, an average of 98 cents was reported by RIK's and 88 cents by the BAS's who had eaten in the dining hall since BAS/A La Carte was started, although responses for both groups ranged from 50 cents to \$3.50. These average reported costs, which were not significantly different, accord well with the 95 cents allotted for lunch from the \$2.41 daily separate ration rate. In addition, when BAS respondents were asked whether they were spending any more or less now than before BAS/A La Carte, the majority (56%) said "less", in comparison to only 17% who said "more".

Given these data, it was initially surprising to find that the majority of all the post-test BAS's (74%) and RIK's (58%)

Table 13

Rank of Eight Determinants of Food Choice as
Given Pre- and Post-Test BAS's and RIK's

| | <u>BAS</u> | | <u>RIK</u> | |
|----------------------------|------------|-------------|------------|-------------|
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> |
| <u>Liking for Food</u> | 2 | 1 | 1 | 1 |
| <u>Food Appearance</u> | 1 | 2 | 2.5 | 3 |
| <u>Food Variety</u> | 3 | 3 | 2.5 | 2 |
| <u>Food Cost</u> | 4 | 4.5 | 7 | 4 |
| <u>Familiarity of Food</u> | 7 | 6 | 4 | 5.5 |
| <u>Compatability</u> | 5 | 7 | 5 | 5.5 |
| <u>Nutritional Value</u> | 6 | 4.5 | 6 | 7 |
| <u>Caloric Content</u> | 8 | 8 | 8 | 8 |

expressed dissatisfaction when rating the adequacy of the \$2.41 rations allowance on a 5-point scale ranging from Extremely Inadequate to Extremely Adequate. The difference between the two groups was statistically significant (15). The BAS responses represented a small and nonsignificant improvement over the dissatisfaction registered by BAS's to the same question in the pre-test interview (Table 14). The attitudes of the RIK's, however, were significantly more positive than those of their pre-test counterparts (16). Hence, actual exposure to the system apparently improved RIK's opinion of the adequacy of the separate rations allowance, although a majority still found it insufficient.⁵

Pre- and post-test respondents were subsequently asked how much money they would need to eat adequately on a typical day according to their current eating habits. Married respondents were told to answer for themselves, only, and not for their families. The responses revealed a pattern similar to that obtained for the previous question: the average BAS amount was not significantly different from pre-to-post-test (\$4.08 and \$4.12, respectively), whereas post-test RIK's indicated they would be satisfied with significantly less than the corresponding pre-test respondents (\$4.04 and \$3.80 for the pre- and post-tests, respectively) (17). Again, experience with BAS/A La Carte apparently moderated RIK's opinions concerning the amount of money they needed to eat adequately.

These data are somewhat paradoxical since both BAS and RIK airmen reportedly spent near the allotted amount for at least mid-day meals in the dining hall, but nonetheless were dissatisfied with the current rations allowance and wanted a significant increase. On the one hand, airmen might say they want more money regardless of the amount they currently receive. On the other hand, however, this desire for a greater allowance may be related to the large segment of meals the airmen reportedly ate outside the dining hall.

⁵ A confounding factor was present in these data, since the rations allowance had increased from \$2.28 to \$2.41 between the pre- and post-tests. That this increase was not responsible for the improved RIK attitudes, however, was indicated by the nonsignificant shift in BAS attitudes, along with the data discussed in the following paragraph above which shows that the amount of money designed by RIK's was also less during the post-test than during the pre-test.

Table 14

Mean Ratings of Adequacy of Rations Allowance by
Pre- and Post-Test BAS's and RIK's

| | <u>Pre</u> | <u>Post</u> |
|------------|------------|-------------|
| <u>BAS</u> | 1.92 | 1.98 |
| <u>RIK</u> | 1.98 | 2.42 |

Scale: 1 - Extremely Less Than What is Needed
2 - Slightly Less Than What is Needed
3 - Just Enough
4 - Slightly More Than What is Needed
5 - Extremely More Than What is Needed

where food costs would be invariably greater. According to this analysis, the dissatisfaction with the rations allowance stemmed from the cost for non-dining hall food and not from the cost for meals in the dining hall itself. This reasoning would also explain why RIK's said they needed a significantly less amount than the BAS's to eat adequately (18), since they reportedly ate fewer meals outside the dining hall than did the BAS's.

Respondents were also questioned about the amount of the current daily separate rations allowance, since data from Shaw AFB indicated that relatively few airmen could report the correct amount. A similar situation occurred in the post-test interviews at Loring. In total, 68% of the BAS's and RIK's combined said they knew what the current rate was. Of these, however, only 15% (or 10% of the total) could give the correct amount (\$2.41). As shown in Figure 3, the tendencies to over- and under-estimate were equivalent. Although the mean of this distribution (\$2.43) was very near the correct amount, estimates ranged from \$1.20 to \$3.00, 47% being off by 10 cents or more and 18% missing by more than 40 cents. Even though these estimates were more accurate than those reported by the Shaw airmen, it is difficult to understand how individuals could properly budget their food money daily without knowing the amount allotted for this purpose. This is particularly true of the RIK airmen who might be expected to budget on a day-to-day basis.

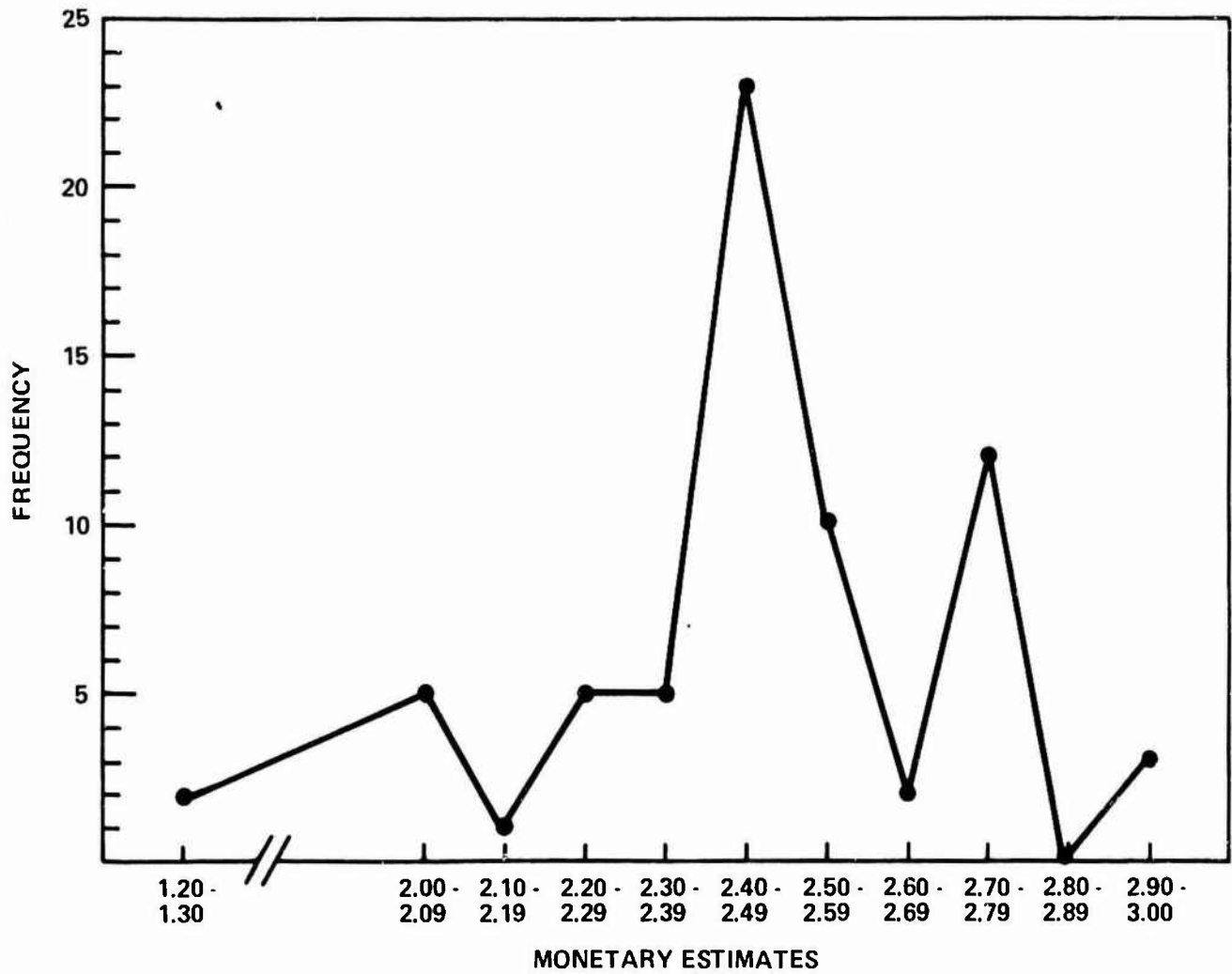
SUMMARY: Even though the respondents reportedly spent near the allotted amount for a typical noon meal, they were dissatisfied with the current allowance and desired an increase, particularly the BAS airmen. This discrepancy was hypothesized to be due to the large number of meals reportedly eaten outside the dining hall. The dissatisfaction expressed in this regard by the RIK's was less during the post-test than during the pre-test, possibly because they learned from dealing with the system that it required less than what was originally anticipated. Surprisingly, a substantial number of both BAS's and RIK's were unable to correctly identify the current rations allowance.

Effect of BAS/A La Carte on General Attitudes

A number of questions included in both interviews pertained to general opinions of the dining hall and Air Force food service. One of the most pertinent of these required the respondents to rate the Loring dining hall relative to others they had experienced (during the post-test, this question was asked only of those who had eaten in the dining hall since BAS/A La Carte was introduced).

FIGURE 3

FREQUENCY OF ESTIMATES OF RATIONS ALLOWANCE BY THE 68 POST-TEST
BAS'S AND RIK'S WHO REPORTEDLY KNEW THE CORRECT AMOUNT (\$2.41)



The rating scale contained five points, ranging from Extremely Worse to Extremely Better. An identical question was also included in the pre- and post-test surveys. The findings obtained with the two instruments agreed - both BAS and RIK respondents were significantly more satisfied with the dining hall after BAS/A La Carte than before (Table 15) (19). Before BAS/A La Carte, both BAS's and RIK's felt their dining hall was inferior to others; whereas after BAS/A La Carte, both groups considered it better than others they had experienced. These data provide clear support for BAS/A La Carte from a consumer standpoint - airmen were more pleased with their dining hall under BAS/A La Carte than under the traditional system.

This improved attitude was not limited to the dining hall. A similar improvement, albeit not as great, occurred for how satisfied the respondents were with the general effort of the Air Force to provide them with good food (Table 16). Only the increase for the RIK's however, attained statistical significance (20).

Given these improved attitudes, it was not surprising that post-test respondents had significantly fewer changes than they would like to have seen made in the dining hall than the pre-test respondents (21), an average 1.48 and 2.12 changes suggested during the pre-test by the BAS's and RIK's, respectively, versus an average of 1.04 and 1.48 during the post-test. There was no difference, however, in the types of changes desired. For the BAS's, most comments (43%) concerned an increase in the rations allowance, while a number of others (35%) referred to improvements in the dining hall food, mainly quality of preparation and long-term variety. Most of the RIK responses (43%) pertained to these same food issues, although many others concerned system changes (e.g., civilian operation, reconvertng to meal pricing, and, before BAS/A La Carte, receiving separate rations). Both BAS's and RIK's also commented on the dining environment. Respondents typically had difficulty, however, specifying exactly what they wanted changed, frequently making general statements that they would like the dining hall to be more like civilian restaurants. (A complete breakdown of responses is given in Appendix E.)

The final question in this series pertained to the respondents attitudes toward increasing general attendance in the dining hall. Although BAS/A La Carte did not significantly affect the number of persons who felt such increases were possible (roughly 80%

Table 15

Mean Interview and Survey Ratings of Loring Facility Relative
to Others as Given Pre- and Post-Test BAS's and RIK's

| | <u>Interview</u> | |
|------------|------------------|-------------|
| | <u>Pre</u> | <u>Post</u> |
| <u>BAS</u> | 2.45 | 3.28 |
| <u>RIK</u> | 2.34 | 3.33 |

| | <u>Survey</u> | |
|------------|---------------|-------------|
| | <u>Pre</u> | <u>Post</u> |
| <u>BAS</u> | 2.74 | 3.22 |
| <u>RIK</u> | 2.44 | 2.90 |

Scale: This dining hall is -

- 1 - Much Worse
- 2 - Slightly Worse
- 3 - No Better or Worse
- 4 - Slightly Better
- 5 - Much Better

Table 16

Mean Rating of Satisfaction With Air Force Food Service
as Given by Pre- and Post-Test BAS's and RIK's

| | <u>Pre</u> | <u>Post</u> |
|------------|------------|-------------|
| <u>BAS</u> | 3.58 | 3.94 |
| <u>RIK</u> | 3.40 | 3.96 |

Scale: 1 - Extremely Dissatisfied
2 - Slightly Dissatisfied
3 - Neither Dissatisfied nor Satisfied
4 - Slightly Satisfied
5 - Extremely Satisfied

of the BAS's and the RIK's in each case), it apparently did exert a slight influence on the ways in which they felt this could be accomplished, particularly among the RIK's.

As shown in Table 17, the main emphasis of pre- and post-test BAS's was on the food (again, improving long-term variety and preparation quality), the environment (improving general atmosphere, playing music, reducing the crowded conditions), and the service (improving the attitude of the food service worker), in that order. A similar pattern was expressed by the post-test RIK's. This represented a statistically significant shift, however, from the responses given by the pre-test RIK respondents (22), which placed greater emphasis on the food and the environment, and less emphasis on service and expense. (See Appendix E for a complete breakdown of responses.)

Respondents who said it was possible to increase attendance were further asked whether their own attendance would increase if their suggestions were actually implemented. Surprisingly, 13% of the pre- and post-test BAS's and 28% of the pre- and post-test RIK's said no. Taken together, therefore, these data indicated that there were reportedly no conditions under which 41% of the BAS's and 24% of the RIK's would attend meals in the dining hall more often than they currently were.

SUMMARY: BAS/A La Carte led to a significant improvement in respondents' attitudes toward the dining hall and Air Force food service, although there remained a number of food service changes the men desired, particularly increasing the rations allowance and improving the quality of food preparation and the long-term variety of the food. Although a majority of airmen felt that attendance could be increased in Air Force dining halls, a significant proportion of them said their own attendance would not increase. This, along with the data reported earlier which showed that the main reasons for the relative non-attendance of the majority of respondents concerned factors unrelated to food service, suggests that the Air Force and other military services cannot anticipate that food service alterations and improvements within the current framework of military food service will serve as an incentive for servicemen to have any more than a minority of their meals in the dining hall.

The Effect of BAS/A La Carte on Attitudes Toward the Dining Service

It was noted in the previous section that BAS/A La Carte influenced respondents' general attitudes toward the dining facility.

Table 17

Factors Which Would Increase Attendance as Given by Pre-
and Post-Test BAS's and RIK's (In Percentages)

| | <u>BAS</u> | | <u>RIK</u> | | <u>Total</u> |
|----------------------|------------|-------------|------------|-------------|--------------|
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> | |
| <u>Convenience</u> | 4 | 8 | 4 | 6 | 6 |
| <u>Food</u> | 46 | 43 | 46 | 35 | 42 |
| <u>Environment</u> | 17 | 20 | 40 | 31 | 27 |
| <u>Service</u> | 12 | 10 | 2 | 16 | 10 |
| <u>Expense</u> | 1 | 4 | 0 | 5 | 2 |
| <u>Food System</u> | 16 | 6 | 7 | 5 | 8 |
| <u>Miscellaneous</u> | 4 | 10 | 0 | 2 | 4 |

The purpose of this section was to examine these attitudes in the context of specific food service features in order to determine more precisely the attitudinal effects of the new system. These features were divided into two areas: food, and dining environment and service. Before considering each area separately, it would be worthwhile to examine the airmen's responses to a survey question which listed 14 major features of military food service together and required the respondents to rate each one on a 5-point scale, ranging from Very Bad to Very Good (Table 18).

For all but three features (convenience of location, service by dining facility personnel, and speed of service or lines), the mean post-test ratings of the BAS's and the RIK's numerically exceeded the respective mean pre-test ratings. This increase was statistically significant for both groups in the cases of the general dining environment, the monotony of the same facility, the quality of the food, and the variety of short order food (23). Hence, although most of these features were not directly involved in the conversion to BAS/A La Carte, airmen's opinions of them were improved following that conversion. This is not to mean, however, that the airmen were now content with food service. As shown in Table 18, a number of the mean ratings were to the negative side of neutral after BAS/A La Carte as well as before. Food features especially received consistently low ratings, and corresponding low rankings (rankings were based on the mean ratings). Even the mean post-test rating of food quality, which was significantly greater than the mean pre-test rating, remained to the negative side of neutral. (Recall that post-test interviewees often cited food quality as a problem area.) The only exception to this pattern was for short order variety, which received a positive post-test mean rating from the BAS's and a correspondingly high rank. More detailed information on the attitudes toward the food, and other dining service features, is presented below.

A. Food Features. Interview data were collected which agreed with the shift in attitude reflected in Table 18 toward food quality. Specifically, post-test respondents were asked whether the food in the dining hall was any better or worse than before BAS/A La Carte. Overall, 40% said it had improved, frequently citing better quality of preparation and raw foods. This is in comparison to the 38% who reported no change and the 22% who said it had deteriorated.

These data and those in Table 18 indicating an improved attitude toward food quality are somewhat curious for two reasons.

Table 18

Mean Ratings (and Rankings) of 14 Food Service Factors as
Given by Pre- and Post-Test BAS's and RIK's

| | <u>BAS</u> | | <u>RIK</u> | |
|-----------------------------|------------|-------------|------------|-------------|
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> |
| <u>Weekday Variety</u> | 2.62(3) | 2.84(2) | 2.24(2) | 2.47(2) |
| <u>Weekend Variety</u> | 2.62(4) | 2.85(3) | 2.20(1) | 2.43(1) |
| <u>Monotony of Facility</u> | 2.47(1) | 2.64(1) | 2.35(5) | 2.64(3) |
| <u>Quality of Food</u> | 2.63(5) | 2.92(5) | 2.25(3) | 2.66(4) |
| <u>Short Order Variety</u> | 2.51(2) | 3.09(9) | 2.25(4) | 2.73(5) |
| <u>Quantity of Food</u> | 2.91(7) | 2.96(6) | 2.71(6) | 2.74(6) |
| <u>Speed of Lines</u> | 3.01(8) | 2.90(4) | 2.94(8) | 2.77(7) |
| <u>Military Atmosphere</u> | 2.81(6) | 3.00(7) | 2.82(7) | 2.94(8) |
| <u>Hours</u> | 3.02(9) | 3.15(10) | 2.97(9) | 3.16(10) |
| <u>Service</u> | 3.13(11) | 3.02(8) | 3.22(11) | 3.11(7) |
| <u>General Environment</u> | 3.12(10) | 3.41(11) | 3.06(10) | 3.46(12) |
| <u>Expense</u> | 3.23(12) | 3.58(13) | 3.33(12) | 3.34(11) |
| <u>Eating Companions</u> | 3.26(13) | 3.65(14) | 3.67(13) | 3.68(13) |
| <u>Convenience</u> | 3.67(14) | 3.57(12) | 3.82(14) | 3.90(14) |

Scale: 1 - Very Bad
 2 - Moderately Bad
 3 - Neither Bad Nor Good
 4 - Moderately Good
 5 - Very Good

The first is simply that BAS/A La Carte was not designed to deal with this factor. However, data from Shaw AFB also showed that the opinions of the Shaw airmen toward food quality were significantly more positive than those of airmen from bases with traditional dining systems (Siebold & Meiselman, 1974). Apparently, BAS/A La Carte involved incidental changes which led to improved food preparation, e.g., preparation of smaller quantities of food, cooking to order of certain items, fewer leftovers, an improved attitude among food service workers (see following section). However, the possibility cannot be discounted that this shift was an instance of the Hawthorne effect discussed in the introduction to this report.

The second reason to question the apparent shift in attitude toward food quality was that many post-test respondents still complained about this same factor. However, it should be recalled that the mean post-test rating of food quality shown in Table 18 remained to the negative side of neutral, even though it was significantly greater than the pre-test mean. A similar situation was found when survey respondents indicated the frequency (never, sometimes, often, always) with which each of 16 different food conditions (e.g., overcooked, bland, tough) occurred. In every case, the mean post-test rating indicated less dissatisfaction than the mean pre-test ratings, significantly so for four of the conditions (dried out, tough, too salty, full of gristle) (24). Nevertheless, the mean post-test ratings for eight of the 16 conditions indicated that respondents perceived them as occurring more than "sometimes." The conditions most often cited in this regard were, in order, bland, greasy, tough, dried out, which are traditionally the most serious reported food quality problems (e.g., Branch, Meiselman, & Symington, 1974). It appears from these and the previous data, therefore, that, although there was more satisfaction with food quality after BAS/A La Carte than before, a number of problems remained.⁶

Unlike food quality, food quantity was more directly affected by the conversion to BAS/A La Carte. Extra portions were no longer

⁶ It should be pointed out that this report dealt with measures of central tendency, i.e., averages, which cannot be interpreted as measures of individuals. Thus, although the averages indicated greater satisfaction after BAS/A La Carte than before, there did exist cases in which the reverse occurred. The present data mean that the number who were more satisfied exceeded the number who were less satisfied.

served; free seconds were discontinued; and portion control, in general, was made more stringent. It was of interest, therefore, to determine whether changes occurred in the airmen's attitudes toward this variable. As shown in Table 18, the general rating of food quantity did not differ significantly between the pre- and post-tests. However, when explicitly asked to rate the portion sizes of four food types in the dining hall (meats, vegetables, starches, desserts), respondents, particularly RIK's, did feel that the food servings were smaller after BAS/A La Carte than before (25). One exception to this pattern was for the portion size of meats, the ratings of which were not significantly influenced by the new system. (This perceived similarity was most probably responsible for the similarity in the general pre-post ratings of food quantity shown in Table 18, since meat is typically the most salient constituent of a meal.) This should not be taken to mean, however, that airmen were satisfied with the portion sizes of meats. Indeed, of the four food types considered, meats were significantly the lowest rated both before and after BAS/A La Carte, a pattern consistently found in military dining halls (26).

Because airmen were generally less satisfied with portion sizes after BAS/A La Carte than before does not necessarily imply a corresponding shift in the amount they consumed at meals in the dining hall. (Recall that most post-test interviewees reported no pre-post change in the amount typically consumed at meals in the dining hall.) Under the new system, airmen were free to eat as much as they wanted, regardless of portion size, although they now had to pay for all they took. When asked how often they left the dining hall hungry, post-test respondents gave answers not significantly different from those of the pre-test respondents. Nor were the responses of the RIK's different from those of the BAS's. (Taken together, 32% of all the respondents said this "never" occurred, 47% said it "sometimes" occurred, 17% said it "often" occurred, and 3% said it "always" occurred.) It would seem, therefore, that there was no change in the amount consumed at dining hall meals.

Diary data has been reported by independent investigators, however, suggesting that pre-post decreases did occur in the daily intake of certain nutrients (vitamin A, thiamin, riboflavin, potassium, and fat) for persons who ate three meals in the dining hall during a 24 hour period (Sanders & Crigler, 1975). Although these data could be interpreted as reflecting a decrease in the amount of food eaten at dining hall meals, they might also reflect changes in the types of foods eaten. The interview data did indicate that such changes did occur. The question remains open, therefore, as

to what effect BAS/A La Carte exerted on the amount of food eaten in the dining hall, although it is clear that respondents were less pleased about the portion sizes of foods offered after BAS/A La Carte than before.

Variety was a second feature of food directly involved in the conversion to BAS/A La Carte since the number of items available within a number of food classes was increased. This was particularly true of entrees for which there was an increase from two per meal on the main line to five or six (with approximately four others available, but requiring preparation while the customer waited). Despite this change, the interview data discussed above revealed a number of complaints about food variety both before and after BAS/A La Carte.

In the survey, attitudes toward variety were measured by three questions, one pertaining to weekdays, one to weekends, and the third to variety over a month period. In each case, respondents rated six food classes (meats, short order, vegetables, starches, desserts, and beverages) on a 5-point scale ranging from Much More Choice Needed to Much Less Choice Needed. The results of all three questions were similar. Most importantly, as in the interviews, they indicated that there was little effect of BAS/A La Carte. With one exception, the ratings of weekday, weekend, and monthly variety were no different after BAS/A La Carte than before. The exception was that RIK's rated weekday variety less positively post- than pre-, BAS/A La Carte.

These findings are somewhat puzzling in light of the actual increases in the number of food selections which occurred with BAS/A La Carte. The explanations of this paradoxical situation may lie in the meaning of the word "variety." At Loring, improvements were made in, what could be called, intra-meal variety - the number of food selections offered at a given meal. The comments of the interviewees clearly indicated, however, that the consumers' concern was more with inter-meal variety - changes in menu selections from meal to meal. Viewed in terms of inter-meal variety, the Loring dining hall was no better after BAS/A La Carte than before. In fact, in some respects, it became less desirable, since (a) the menus offered for evening meals were repeats of the day's noon meal menus and (b) the entire short order menu and a core set of entree selections on the main line were invariant from day to day. Hence, since the respondents' main concern was with regard to inter-meal variety, not intra-meal variety, and since inter-meal variety was not improved with BAS/A La Carte, it becomes less surprising that pre- and post-test respondents rated

variety in much the same way,

The survey data further suggested that, from a variety standpoint, some food classes were more of a problem than others. In fact, there was unanimous agreement between RIK's and BAS's both before and after BAS/A La Carte that the most serious problems were with regard to meats and short order items, a finding similar to ones obtained in previous surveys. (Although they shared this same pattern, BAS's rated each of the three types of variety - weekday, weekend, and monthly - significantly more positively than the RIK's both before and after BAS/A La Carte. This is not surprising since RIK's reportedly attended meals in the dining hall more often than BAS's and, therefore, would be more sensitive about menu variety.) (27)

SUMMARY: Together, the survey data on food features indicated that satisfaction with food quality increased with BAS/A La Carte, even though there remained considerable dissatisfaction. Despite this increase, however, airmen, as a result of BAS/A La Carte, were less pleased about the quantity of portion sizes (except for meats) and no more or less pleased about the variety of the food offerings, the latter being due to the lack of improvement in inter-meal variety. For each of these factors, the issues and food types most criticized were the same as those reported from previous surveys.

B. Features of the Dining Environment and Service. It was noted with regard to Table 18 that post-test airmen rated the general dining environment and the monotony of the facility more favorably than the pre-test respondents. Again these data were somewhat unexpected since BAS/A La Carte involved very few changes in the physical aspects of the dining facility. Furthermore, few shifts in attitude occurred with respect to specific questions contained in the survey about the dining environment. These questions covered a wide range of environmental features (e.g., temperature, cleanliness, appearance, privacy) (see Appendix A for a complete listing) and, with few exceptions, were responded to similarly by the pre- and post-test airmen. Hence, the general improvement in the respondents' attitudes about the general dining environment represented in Table 18 may again represent a Hawthorne-like effect and diminish in time. It may also be the case that in responding to these general questions the airmen were considering something more than the concrete features covered in the survey, some less tangible element of the atmosphere that they did consider improved with BAS/A La Carte.

One feature of the BAS/A La Carte environment which drew complaints from airmen at Shaw AFB was the wait in line. Apparently, the extra time patrons took to examine the available items and the time required to cook certain items to order slowed the flow of persons through the serving line. As shown in Table 18, speed of service or lines was one of only two features which was not rated more positively post-test than pre-test by both the BAS's and RIK's. A similar pattern was found when survey respondents were asked to state the time they typically waited in the serving line - the average time reported by post-test respondents (5.19 minutes) being numerically, although not significantly, greater than the time reported by the pre-test respondents (4.73 minutes). This time however, was apparently compensated for by a shorter wait prior to entering the serving line, the post-test respondents reporting a significantly shorter time (2.62 minutes) than the pre-test respondents (3.64 minutes) (28). This difference, of course, was due to the deletion of headcount under BAS/A La Carte.

The second general factor which was not rated more positively by the post-test BAS's and RIK's than by their pre-test counterparts was service by the dining facility personnel (see Table 18). A similar lack of difference was found when respondents rated the service personnel on a number of specific attributes (cleanliness, pleasantness, training, hard working, speed, and attitude), their mean ratings varying closely about the neutral point in each case. In fact, the only significant difference for any service-related question was for one which asked for the frequency with which enough condiments were not available, the post-test RIK's saying this happened significantly more often than did the pre-test RIK's (29). (The groups did not differ significantly in their estimates of the frequency with which silverware was missing or with which the serving line had run out of items.)

SUMMARY: BAS/A La Carte had little bearing on opinions about the food service worker, just as it did not systematically influence attitudes about specific features of the physical dining environment. However, BAS/A La Carte did enhance consumers' opinions of the dining facility at a general level.

Worker Surveys and Interviews

Demographic Data

The worker samples covered a wide range of demographic

characteristics in both the pre- and post-tests. Military workers ranged in age from 18 to 38 in the pre-test sample and from 19 to 38 in the post-test sample. Military experience in Air Force food service ranged from virtually none to 20 years in both samples. As might be anticipated, the civilians had even a wider range in age, from 22 to 60 in both samples; and similar ranges in food service experience (not necessarily Air Force food service), from virtually none to 23 years of experience in both pre- and post-test samples.

Table 19 indicates the rank of the military workers surveyed and their attitude toward military service. Note that the rank distribution was approximately the same in both samples and that approximately three-fourths of each sample fell on the positive side of neutral in their attitude toward the military.

Effect of BAS/A La Carte on Worker Opinion of That and the Traditional Military Food System

The surveys and interviews provided relevant information concerning the workers' opinions of the change in food systems at Loring. The Job Description Index (JDI), which measures job satisfaction, was administered to both the pre- and post-test workers.

Before discussing the results from the JDI, a brief explanation of the scoring should be undertaken. Each of five areas of the JDI is evaluated by responses to a list of adjective or descriptive phrases (eighteen words and phrases each for work, supervision, and co-workers; nine each for pay and promotion). Figure 4 shows the format and four of the adjectives from the work scale. The respondent circles "Y" ("yes") or "N" ("no") to tell whether the work or phrase describes his job or not. He circles "?" for those items which he does not understand or on which he cannot decide.

Based on a large number of respondents who were asked to describe the best and worse possible jobs for themselves, the developers of the JDI (Smith, et al., 1969) determined which response should be scored as satisfied for each item. For example, in Figure 4, "routine" and "boring" are scored in the satisfied direction if the individual responds "N;" and "fascinating" and "good" are scored in the satisfied direction if he answers "Y."

Smith's scoring departs from more traditional methods since she suggests scoring satisfied answers as 3, dissatisfied

Table 19

Frequency of Ratings of Attitude Toward Military Service as
Given by Military Food Service Workers (categorized by Rank).

Pre-test Sample

| | <u>E-1</u> | <u>E-2</u> | <u>E-3</u> | <u>E-4</u> | <u>E-5</u> | <u>E-6</u> | <u>E-7</u> | <u>Total</u> |
|---|------------|------------|------------|------------|------------|------------|------------|--------------|
| <u>Attitude toward military service</u> | | | | | | | | |
| 1. Dislike very much | | 1 | | 2 | | | | 3 |
| 2. Dislike moderately | | | 1 | | | | | 1 |
| 3. Dislike a little | | | | 1 | 1 | | | 2 |
| 4. Neither like nor dislike | | | 1 | | | | | 1 |
| 5. Like a little | | 1 | 1 | | | | | 2 |
| 6. Like moderately | 1 | 1 | 3 | 3 | 3 | | 1 | 12 |
| 7. Like very much | | | 1 | 1 | | 2 | | 4 |
| TOTAL: | 1 | 3 | 7 | 7 | 4 | 2 | 1 | 25 |
| MEAN RATING = 5.00 | | | | | | | | |

Post-test Sample

| | <u>E-1</u> | <u>E-2</u> | <u>E-3</u> | <u>E-4</u> | <u>E-5</u> | <u>E-6</u> | <u>E-7</u> | <u>Total</u> |
|---|------------|------------|------------|------------|------------|------------|------------|--------------|
| <u>Attitude toward military service</u> | | | | | | | | |
| 1. Dislike very much | | | 1 | | | | | 1 |
| 2. Dislike moderately | | 1 | | 1 | | | | 2 |
| 3. Dislike a little | | 1 | 1 | 1 | | | | 3 |
| 4. Neither like nor dislike | | | 2 | | | | 1 | 3 |
| 5. Like a little | | | | 2 | | | | 2 |
| 6. Like moderately | | 1 | 2 | 3 | 3 | | | 9 |
| 7. Like very much | | 2 | 2 | 2 | 1 | 2 | 1 | 10 |
| TOTAL: | | 5 | 8 | 9 | 4 | 2 | 2 | 30 |
| MEAN RATING = 5.33 | | | | | | | | |

Figure 4

Format for the Work Scale of the Job Description
Index (JDI)

WORK

| | | | |
|-------------|---|---|---|
| Fascinating | Y | N | ? |
| Routine | Y | N | ? |
| Boring | Y | N | ? |
| Good | Y | N | ? |

answers as 0, and "?" as 1. This departure is based on the response of the sample mentioned above where it was concluded that the "?" response was more indicative of dissatisfaction than of satisfaction. For each scale of the JDI, the range of possible scores is from 0 to 54, with scores on each work or phrase being summed for the work, supervision, and co-workers scales; and summed, then doubled, on the pay and promotion scales.

Table 20 shows the overall mean responses of the civilian and military workers to the five scales of the JDI for both the pre- and post-test samples. It also provides the mean responses from a sample of food service workers surveyed recently at three Air Force bases - Travis, Minot, and Homestead (Symington & Meiselman, 1975) and norms from a large, non-food service, civilian sample. This normative sample was drawn from private business organizations of fifty or more employees, and from all levels within these organizations. The companies included production plants, retail stores, and banks, among others (Smith, et al., 1969).

Although the major thrust of this report is pre- and post-test comparisons, some general observations might be made about food service worker job satisfaction at Loring AFB. It can be seen from the table that the civilian food service workers were most satisfied with supervision and their co-workers, least satisfied with promotions, and intermediately satisfied with the work itself and the pay. The military workers also expressed the highest level of satisfaction with supervision and the next highest with their co-workers.

A comparison of JDI scores of Loring workers, both pre- and post-test, to the sample of workers from the three other bases reveals no statistically significant differences for the military workers, the civilian workers, or all workers combined. Comparisons with the civilian norms cannot be accomplished statistically, but, in general, worker satisfaction with supervision approximated the civilian norms. The civilian workers at Loring were somewhat less satisfied than the normative sample concerning the work itself and promotion. The military workers were more satisfied with promotions, somewhat less with pay, and even less with their co-workers and work than the civilian normative sample.

The critical comparisons occur, however, between the pre- and post-team samples. In two areas, pay and promotions, the pre- and post-mean JDI scores were virtually identical. (which is not surprising since one would not expect BAS/A La Carte to affect these categories.) Three areas (supervision, co-workers, and work) did show an apparent increase in worker satisfaction in

Table 20

Mean responses* to the Job Description Index (JDI) at
Loring AFB Pre- and Post-test, at Three Air Force Bases**,
and in a Civilian Normative Sample***

| Loring Air Force Base | | | | | | |
|-----------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|
| <u>Scale</u> | <u>Pre-test</u> | | | <u>Post-test</u> | | |
| | <u>Military</u> | <u>Civilian</u> | <u>Combined</u> | <u>Military</u> | <u>Civilian</u> | <u>Combined</u> |
| <u>Supervision</u> | 38.52 | 36.04 | 37.31 | 42.07 | 42.07 | 42.07 |
| <u>Co-Workers</u> | 28.24 | 34.29 | 31.20 | 32.60 | 41.14 | 36.80 |
| <u>Work</u> | 24.84 | 27.88 | 26.33 | 27.53 | 32.79 | 30.12 |
| <u>Pay</u> | 23.20 | 27.17 | 25.47 | 24.40 | 27.45 | 26.07 |
| <u>Promotion</u> | 27.36 | 13.92 | 21.39 | 26.33 | 15.31 | 20.92 |

| <u>Scale</u> | <u>Three Air Force Bases</u> | | | <u>Civilian Norms</u> |
|--------------------|------------------------------|-----------------|-----------------|-----------------------|
| | <u>Military</u> | <u>Civilian</u> | <u>Combined</u> | |
| <u>Supervision</u> | 38.89 | 39.86 | 39.38 | 41.10 |
| <u>Co-Workers</u> | 34.98 | 37.09 | 36.04 | 43.49 |
| <u>Work</u> | 23.72 | 29.94 | 26.66 | 36.57 |
| <u>Pay</u> | 21.26 | 27.08 | 24.17 | 29.90 |
| <u>Promotion</u> | 25.69 | 18.77 | 22.23 | 22.06 |

* Range: 0 = lowest satisfaction - 54 = highest satisfaction

** Travis, Minot, and Homestead AFB's (Symington and Meiselman, 1975)

*** Smith, et al., 1969

the post-test sample, although none of the differences were statistically significant.

Further evidence for the increased satisfaction of both military and civilian workers comes from interview questions concerning the pre-test sample's feelings about what their job might be like under BAS/A La Carte and the post-test sample's comparisons of the two work situations (Table 21). Although the post-test sample responded on a 5-point scale, their answers were combined into a 3-point scale for comparison with the pre-test sample's. Both the military (30) and the combined military and civilian (31) post-test respondents showed a statistically significant positive change in attitude toward their jobs under BAS/A La Carte when compared to pre-test estimates (civilian workers showed a change in the same direction which was not statistically significant). While it may appear that the military workers were less positive about BAS/A La Carte than their civilian counterparts, this was statistically significant for only the pre-test group (32).

In both interviews a response of better or worse was followed by an open-ended question as to why. As is typical, many different answers were given. The most common response among pre-test workers who felt their job would be worse under BAS/A La Carte was that the larger variety of food would lead to an increased workload. Pre-test workers who felt that their job would be better singled out that there would be less waste to take care of. In the post-test sample, workers who felt that their job was better under BAS/A La Carte gave as their main reason that there was less to do (mostly given by civilian KP's), while those who felt their job was worse echoed as fact the pre-test sample's concern with an increased workload.

Another post-test interview question, asking workers' preference for the BAS/A La Carte or traditional system, yielded responses which overwhelmingly favored the former, with 83% of the military and 100% of the civilians preferring BAS/A La Carte (Table 22). Even more dramatic were the unusually high response rates at the extreme positive end of the scale (63% and 90%), which suggest very strong support among the Loring workers for the BAS/A La Carte system.

Table 23 shows workers' responses to the related question of whether BAS/A La Carte made their job easier or harder. Note that 29% of the workers said the job was harder while, referring back to Table 21, only 6% said the job was worse. It is clearly

Table 21

Responses of Workers Comparing Their Jobs Under
BAS/A La Carte and the Traditional System* (in Percentages)

| BAS/A La Carte is: | <u>Military</u> | | <u>Civilian</u> | | <u>Combined</u> | |
|-----------------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> |
| <u>Better</u> | 32 | 37 | 25 | 58 | 29 | 46 |
| <u>Same</u> | 16 | 50 | 54 | 38 | 35 | 44 |
| <u>Worse</u> | 40 | 7 | 13 | 4 | 27 | 6 |
| <u>Don't Know</u> | 12 | 7 | 8 | 0 | 10 | 4 |

* Pre-test samples asked what their job would be like in BAS/A La Carte on a 3 point scale; post-test samples asked whether their job in BAS/A La Carte was better or worse on a 5 point scale (the 5 points collapsed to 3 in this table).

Table 22

Percentage of Post-test Workers Expressing Preference for the
BAS/A La Carte and the Traditional Food Service System

| | <u>Civilian</u> <u>(N = 30)</u> | <u>Military</u> <u>(N = 24)</u> | <u>Combined</u> <u>(N = 54)</u> |
|---|------------------------------------|------------------------------------|------------------------------------|
| <u>Extremely Prefer BAS</u> | 92 | 63 | 76 |
| <u>Slightly Prefer BAS</u> | 8 | 20 | 15 |
| <u>No Preference</u> | 0 | 10 | 6 |
| <u>Slightly Prefer</u> <u>Traditional</u> | 0 | 7 | 3 |
| <u>Extremely Prefer</u> <u>Traditional</u> | 0 | 0 | 0 |

Table 23

Ease of Job in BAS/A La Carte vs. Traditional Food Service
System (In Percentages)

| | <u>Civilian</u> <u>(N = 24)</u> | <u>Military</u> <u>(N = 28)</u> | <u>Combined</u> <u>(N = 54)</u> |
|-----------------------|------------------------------------|------------------------------------|------------------------------------|
| <u>Much Easier</u> | 38 | 7 | 21 |
| <u>Easier</u> | 29 | 4 | 15 |
| <u>About the Same</u> | 29 | 39 | 35 |
| <u>Harder</u> | 4 | 25 | 15 |
| <u>Much Harder</u> | 0 | 25 | 14 |

the military workers who contributed to this difference, 50% saying the job was harder and only 7% saying it was worse. Interview responses indicate that the military cooks felt that BAS/A La Carte provided them their first opportunity to actually cook. Because of this, their job was harder, but more satisfying than the KP-oriented work they reported doing under the traditional system.

Regardless of their preferences between the two systems, the post-test workers were asked what was good and bad about BAS/A La Carte as implemented at Loring AFB. Most of the responses concerned things which were good about BAS/A La Carte. As a matter of fact, 29 respondents (54%) claimed that nothing was bad. Only two negative comments were given by more than two workers, five (9%) mentioning that the system was bad for heavy eaters and three (6%) saying that some customers complained about the pricing of some items. The most frequent positive response related to the larger variety than in the traditional system (36 workers, 67%). Nearly half of the workers (25, 46%) indicated that there was less waste in BAS/A La Carte, confirming the predictions of many of the pre-test workers. Other responses given by more than three workers included improvement in customer attitude toward both the worker and the food system (13, 24%) (which is interesting given that customers' attitudes toward the workers did not change), their feeling that some customers were saving money (5, 9%), and their feeling that food quality was improved (5, 9%).

Finally, the workers were asked whether they preferred the customers to remain on separate rations or have some go back to rations-in-kind, as before. While the majority of workers (53%) indicated no preference, the remaining 47% preferred all the customers to be on separate rations. The main reasons given by these latter workers were that customer attitudes had improved (12, 50%) and that the workers jobs were easier (6, 25%, all civilian workers).

SUMMARY: The Job Description Index (JDI), a measure of job satisfaction, indicated that, like food service workers at other Air Force Bases, the Loring workers were most satisfied with supervision and their co-workers. Administrations of the JDI also indicated an apparent pre-post increase in worker satisfaction, although not a statistically significant one. Responses to interview questions indicated very strong support among the Loring workers for the BAS/A La Carte system. Most civilian workers felt their job was easier; half the military felt it was harder, yet better. More than half the workers felt that nothing was

bad about the new system, and the most frequent positive responses about the system concerned less waste and improved customer attitudes.

Perception of the Effect of BAS/A La Carte on Customer Satisfaction

The post-test workers' views of the customers' reactions to BAS/A La Carte tend to provide corroboration and, in some instances, further amplifications of the post-test customers responses discussed earlier.

In questions concerning attendance, most workers reported a perception of a slight decrease resulting from the change to BAS/A La Carte - a perception verified by actual attendance data. Recall that roughly 80% of the BAS and RIK customers felt that things could be done to increase general attendance in Air Force dining halls. In response to the same question, however, only 44% of the workers held the same opinions (interestingly, 73% of the military workers responded affirmatively to this question, a proportion similar to the customers).

The main suggestion of the workers about what could be done, like the most frequent suggestion of the customers, concerned food, although all eight workers involved (33% of those making a suggestion for improving attendance) referred specifically to variety and not food quality. The only other area mentioned by more than two workers was expanding BAS/A La Carte to the entire Air Force (7, 29%). Only one worker mentioned improving food service worker's attitudes and none of them mentioned the dining facility environment.

Several questions centered on the influence of BAS/A La Carte on food habits of the customers in the dining facility. Most of the workers (87%) felt that the customers ate differently under BAS/A La Carte than they had before (recall that about half of the customers responded affirmatively in their post-test interviews). The types of changes reported by the workers were similar to those reported by the customers, although the most frequent response of the workers (36, 67%) concerned less food waste. The most frequent response by the customers, decreased food quantity, was cited by eight workers (15%). While customers singled out less frequent desserts, only three workers (6%) did so; however, eight workers (15%) specifically singled out an increase in the number of hamburgers ordered.

Following this general question, more specific questions were addressed to the workers in an attempt to elicit more detailed opinions. The first asked whether the average customer ate more or less at a meal since the change. More workers perceived no change (62% as compared to 53% of the BAS and 40% of the RIK customers). Just as with the customers, however, a substantial segment of the worker sample (31%) felt that customers were eating less after the change, in comparison to 7% who felt that the customers were eating more.

Roughly 60% of the customers reported eating different foods after the change to BAS/A La Carte; 70% of the workers also felt that the kinds of foods the average customer ate had changed. When the customers were asked to name which specific foods were eaten more or less often, several reported eating inexpensive meats more often. The majority of workers were in partial agreement, but were more specific with nearly two-thirds citing a perceived increase in hamburgers, cheeseburgers, and hot dogs chosen by customers (Table 24). If one were to add the four workers who cited more short order foods and the one who reported more sandwiches, a total of 76% of the workers perceived a shift toward more short order foods. Another 18% reported detecting a shift toward inexpensive meats.

As might be expected from the high frequency of responses concerning less food waste to the general question about changes, 94% of the workers noted less food waste under BAS/A La Carte when specifically asked about it.

Like the customers, the workers were also asked whether the food in the dining facility was any better or worse than before the change in systems. While 46% felt that it was the same, 48% felt that it had improved, versus only 6% who said it was worse. Of those who reported an improvement, 92% said it was due to better food quality. When these workers were asked why the quality had improved, 73% cited the smaller amounts prepared under BAS/A La Carte. In line with this, 15% also indicated that the cooks were under more pressure to follow the recipe cards and were doing so more often. There were also four workers (15%) who felt that the cooks were better motivated and being more careful, two of them feeling this was due to improved customer attitudes. Two workers (8%) commented that the food was hotter, mostly because of the items being prepared on the serving line. (It should be noted that a worker could, and often did, offer more than one response to an open-ended question such as the present one.)

Table 24

Percentage of Workers Perceiving Differences in Specific
Foods Eaten More or Less Often by Consumers
After the Change to BAS/A La Carte

| <u>MORE</u> | |
|--|----|
| <u>Hamburgers, Cheeseburgers, Hot Dogs</u> | 63 |
| <u>Chicken</u> | 16 |
| <u>Short Order</u> | 11 |
| <u>Soup</u> | 8 |
| <u>Salads</u> | 8 |
| <u>LESS</u> | |
| <u>Expensive Meats</u> | 19 |
| <u>Desserts</u> | 13 |
| <u>Milk</u> | 8 |

In response to a final question, 53% of the workers indicated that they had perceived no change in the length of the customers' wait in the serving line under the new system, while 32% maintained that it was longer and 12% that it was shorter. This small tendency toward the perception of a longer wait in line under BAS/A La Carte tends to confirm the customers' survey responses.

SUMMARY: Many of the workers' perceptions supported the customers' responses about BAS/A La Carte. They agreed that the major improvement which would increase customer attendance in Air Force dining halls were related to the food, but emphasized variety rather than quality. Most workers felt that food habits changed under BAS/A La Carte, reporting less food waste, a decrease in the quantity eaten, and an increase in choice of short order items. Almost half reported better food quality under BAS/A La Carte, most of these citing smaller quantity preparation as the reason.

CONCLUSIONS

1. Airmen held more positive opinions about the dining facility and about the Air Force food service, in general, after BAS/A La Carte than before. This was true for persons formerly on rations-in-kind (RIK's), as well as for those on separate rations even before BAS/A La Carte (BAS's). This indicates that BAS/A La Carte was successful in improving consumer attitudes.
2. Before the system was implemented, item-pricing was preferred by only a minority of respondents, whereas afterwards a majority of both BAS's and RIK's chose it over meal-pricing. There were some (roughly 20%), however, who remained in favor of meal-pricing because it reportedly provided them with more food for their money.
3. Nearly all the airmen both before and after BAS/A La Carte preferred receiving separate rations rather than rations-in-kind, although a minority of RIK's (12%) did not, because they reportedly could not budget or because they lost money due to eating too much when on separate rations.
4. A minority of BAS's and RIK's both before and after BAS/A La Carte opposed a policy whereby all airmen would receive separate rations. A major reason given was that some younger airmen would not budget their food allowance. Some, in fact, did report a deterioration in food habits over the pay period.

However, an equivalent proportion of the older BAS's reported the same pattern.

5. Approximately 50% of the post-test respondents designed as their "best" dining system one with all-BAS and item-pricing. This is in comparison to the roughly 2% who said they best liked the traditional system.

6. Despite the favorable consumer attitude toward BAS/A La Carte, attendance of RIK's reportedly declined following its implementation. This decline was related by 79% of the RIK's to their conversion to separate rations. In fact, many said they liked BAS/A La Carte primarily because of the financial flexibility it provided for eating elsewhere. BAS attendance reportedly increased slightly with BAS/A La Carte. The effect of item-pricing on attendance changes was equivocal. Although most (71%) whose attendance had reportedly increased said item-pricing was involved, some (22%) whose attendance reportedly decreased also reported it as a contributing factor.

7. No one other type of eating establishment reportedly gained or lost significant patronage because of BAS/A La Carte.

8. When asked why they did not eat in the dining hall more often, many respondents cited food habits preferred to and incompatible with eating in the dining hall (e.g., eating at home or in the barracks, eating with girlfriends). These factors are obviously outside the control of food service. In addition, although roughly 80% of the pre- and post-test BAS's and RIK's said dining hall attendance could be increased, approximately 20% of them said that their own attendance would not increase. The attendance of a substantial number of respondents, therefore, was apparently unalterable regardless of the dining service modifications and improvements within the current framework of military food service.

9. Over 40% of the post-test respondents said they were generally eating less at dining hall meals in comparison to before BAS/A La Carte. There were also effects on the types of foods eaten by many (roughly 60%), many saying they were now eating more inexpensive meats. Food service workers perceived the customers as now eating more short order foods. Although liking, appearance, and variety remained the most influential factors in determining food choice, and caloric content and nutritional value the lowest, the importance of food cost

reportedly increased from pre- to post-test for the RIK's, as would be anticipated,

10. There was a high level of agreement among both customers and food service workers that BAS/A La Carte produced a decrease in plate waste.

11. Although only 17% of the BAS's reportedly spent more for dining hall meals after BAS/A La Carte than before and although the BAS's and RIK's reportedly spent near the allotted amount for a typical mid-day meal in the dining hall, a majority of both groups expressed dissatisfaction with the current rations allowance (\$2.41/day) and desired an increase to an average of \$4.08 for the BAS's and \$3.18 for the RIK's. In fact, an increase in separate rations was the most frequent change in dining service desired by the pre- and post-test BAS's, and was also mentioned frequently by post-test RIK's. (Other changes cited were improving the quality of food preparation, increasing the long-term variety of foods, converting to civilian operation, and reverting to meal pricing.)

12. Over 30% of the post-test BAS's and RIK's said they did not know the daily rations rate, and over 30% of those who said they did know gave estimates inaccurate by 10 cents or more.

13. Although post-test respondents were more satisfied than pre-test respondents with food quality, their level of satisfaction was not high. The problems most frequently cited were blandness, greasiness, and toughness. The effect of BAS/A La Carte on the amount of food eaten at dining hall meals was uncertain, although the post-test respondents reportedly left the dining hall hungry no more or less often than the pre-test respondents. However, there was greater dissatisfaction about portion sizes (except for meats) among the post-test airmen (particularly RIK's) than among the pre-test airmen. No substantial effect of BAS/A La Carte was evidenced for food variety, despite the actual increase in the number of foods offered at meals under BAS/A La Carte. This was due to the lack of improvements in the variety of selections from meal to meal, the type of variety with which airmen were most concerned.

14. There was an improvement in the respondents' general attitude toward the dining environment, even though attitudes toward specific environmental features were uninfluenced by BAS/A La Carte. Similarly, no change in attitude occurred regarding the food service workers.

15. Both military and civilian food service workers showed a strong preference for the BAS/A La Carte system after exposure to it, compared to the negative-to-neutral responses in the pre-test interview. Such categories as increased variety in the menu, an easier job, a better job, less waste, and improved customer attitude were cited as reasons for their preference. Perhaps BAS/A La Carte could serve as a vehicle for improved food service workers' morale and satisfaction.

16. The workers agree with the customers that food quality improved under BAS/A La Carte, most indicating that the smaller amounts prepared in the new system led to better quality control.

17. Taken together these data indicate that BAS/A La Carte may be considered a qualified success in terms of consumer and worker satisfaction, although this satisfaction may not be reflected in increased attendance.

REFERENCES

- Branch, L. G. Meiselman, H. L., & Symington, L. E. A consumer evaluation of Air Force food service. U. S. Army Natick Laboratories Technical Report 75-22-FSL, 1974.
- Roethlisberger, F. J., & Dickson, W. J. Management and the Worker. Cambridge: Harvard University Press, 1939.
- Sanders, M. A. & Crigler, J. C. Nutritional impact of BAS/A La Carte food service concept. Interim Report, U.S.A.F. School of Aerospace Medicine, 1975.
- Siebold, J. R., & Meiselman, H. L. Consumer evaluation of cash food systems: Shaw Air Force Base. U.S. Army Natick Laboratories Technical Report 75-77-FSL, 1974.
- Smith, P. C., Kendall, L. M., & Hulin, C. L. The measurement of work satisfaction in work and retirement. Chicago: Rand McNally & Co., 1969.
- Symington, L. E., & Meiselman, H. L. The food service worker and the Travis Air Force Base experimental food system: Worker opinions and job satisfaction. U.S. Army Natick Laboratories Technical Report 75-94-FSL, 1975.

APPENDIX A
Consumer Surveys

CONSUMER'S OPINIONS OF FOOD SERVICE SYSTEMS

NOVEMBER 1972

| |
|--|
| |
|--|

• • •

①①②③④⑤⑥⑦⑧⑨

①①②②③③④④⑤⑤

1st digit ① ① ② ② ③ ③ ④ ④ ⑤ ⑤

☐ Caucasian
☐ Negro
☐ Oriental
☐ Other (specify _____)

☐ Male

☐ Female

- ☐ Some Grade School
- ☐ Finished Grade School
- ☐ Some High School
- ☐ High School Graduate (includes GED)
- ☐ Skilled Job Training
- ☐ Some College
- ☐ College Graduate
- ☐ Beyond College

years 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Do you plan to REENLIST when your present enlistment ends? Darken the appropriate

☐ Definitely yes
☐ Probably yes
☐ Undecided
☐ Probably no
☐ Definitely no

| Dislike very much | Dislike moderately | Dislike a little | Neutral | Like a little | Like moderately | Like very much |
|----------------------|-----------------------|---------------------|---------|------------------|--------------------|-------------------|
| ⑥ | ⑤ | ④ | ③ | ② | ① | ⑦ |

Where were you raised? Darken the appropriate circle.

- ☐ In the country
- ☐ In a town with less than 2,500 people
- ☐ In a town or small city with more than 2,500, but less than 25,000 people
- ☐ In a city with more than 25,000, but less than 100,000 people
- ☐ In a large city with more than 100,000, but less than one million people
- ☐ In a very large city with over one million people
- ☐ In a suburb of a large or very large city

In what STATE were you raised? Darken the appropriate circle.

- | | |
|--|--|
| <input type="radio"/> 01 Alabama | <input type="radio"/> 28 Nevada |
| <input type="radio"/> 02 Alaska | <input type="radio"/> 29 New Hampshire |
| <input type="radio"/> 03 Arizona | <input type="radio"/> 30 New Jersey |
| <input type="radio"/> 04 Arkansas | <input type="radio"/> 31 New Mexico |
| <input type="radio"/> 05 California | <input type="radio"/> 32 New York |
| <input type="radio"/> 06 Colorado | <input type="radio"/> 33 North Carolina |
| <input type="radio"/> 07 Connecticut | <input type="radio"/> 34 North Dakota |
| <input type="radio"/> 08 Delaware | <input type="radio"/> 35 Ohio |
| <input type="radio"/> 09 Florida | <input type="radio"/> 36 Oklahoma |
| <input type="radio"/> 10 Georgia | <input type="radio"/> 37 Oregon |
| <input type="radio"/> 11 Hawaii | <input type="radio"/> 38 Pennsylvania |
| <input type="radio"/> 12 Idaho | <input type="radio"/> 39 Rhode Island |
| <input type="radio"/> 13 Illinois | <input type="radio"/> 40 South Carolina |
| <input type="radio"/> 14 Indiana | <input type="radio"/> 41 South Dakota |
| <input type="radio"/> 15 Iowa | <input type="radio"/> 42 Tennessee |
| <input type="radio"/> 16 Kansas | <input type="radio"/> 43 Texas |
| <input type="radio"/> 17 Kentucky | <input type="radio"/> 44 Utah |
| <input type="radio"/> 18 Louisiana | <input type="radio"/> 45 Vermont |
| <input type="radio"/> 19 Maine | <input type="radio"/> 46 Virginia |
| <input type="radio"/> 20 Maryland | <input type="radio"/> 47 Washington |
| <input type="radio"/> 21 Massachusetts | <input type="radio"/> 48 West Virginia |
| <input type="radio"/> 22 Michigan | <input type="radio"/> 49 Wisconsin |
| <input type="radio"/> 23 Minnesota | <input type="radio"/> 50 Wyoming |
| <input type="radio"/> 24 Mississippi | <input type="radio"/> 51 Other U.S. territories or possessions (For example, Puerto Rico or Virgin Islands.) |
| <input type="radio"/> 25 Missouri | <input type="radio"/> 52 Outside the U.S. or U.S. Territories or possessions. |
| <input type="radio"/> 26 Montana | |
| <input type="radio"/> 27 Nebraska | |

Darken the circle which indicates your PRESENT GRADE.

- ☐ E-1
- ☐ E-2
- ☐ E-3
- ☐ E-4
- ☐ E-5
- ☐ E-6
- ☐ E-7
- ☐ E-8
- ☐ E-9

Do you receive a SEPARATE RATIONS ALLOWANCE (money instead of free meals)?

Darken the appropriate circle.

- ☐ Yes
- ☐ No

What ONE TYPE OF COOKING were you raised on? Darken the appropriate circle.

- | | |
|---|---|
| <input type="radio"/> 01 Chinese | <input type="radio"/> 09 Jewish |
| <input type="radio"/> 02 English | <input type="radio"/> 10 Mexican |
| <input type="radio"/> 03 French | <input type="radio"/> 11 New England |
| <input type="radio"/> 04 General American Style | <input type="radio"/> 12 Polish (& Eastern Europe) |
| <input type="radio"/> 05 German | <input type="radio"/> 13 Soul |
| <input type="radio"/> 06 Greek | <input type="radio"/> 14 Southern |
| <input type="radio"/> 07 Italian | <input type="radio"/> 15 Spanish (not Mexican) |
| <input type="radio"/> 08 Japanese | <input type="radio"/> 16 Other (please specify _____) |

What TYPE OF COOKING OR SPECIALTY FOODS do you like best? Please darken the circles of your TOP THREE CHOICES.

- | | |
|---|---|
| <input type="radio"/> 01 Chinese | <input type="radio"/> 09 Jewish |
| <input type="radio"/> 02 English | <input type="radio"/> 10 Mexican |
| <input type="radio"/> 03 French | <input type="radio"/> 11 New England |
| <input type="radio"/> 04 General American Style | <input type="radio"/> 12 Polish (& Eastern Europe) |
| <input type="radio"/> 05 German | <input type="radio"/> 13 Soul |
| <input type="radio"/> 06 Greek | <input type="radio"/> 14 Southern |
| <input type="radio"/> 07 Italian | <input type="radio"/> 15 Spanish (not Mexican) |
| <input type="radio"/> 08 Japanese | <input type="radio"/> 16 Seafood |
| | <input type="radio"/> 17 Other (please specify _____) |

WHICH MEALS DO YOU EAT DURING A TYPICAL WEEK, REGARDLESS OF WHERE YOU EAT THEM? If you have "brunch" on Saturdays or Sundays, consider it to be a mid-day meal. Be sure to mark each block.

| | Mon. | | Tues. | | Wed. | | Thurs. | | Fri. | | Sat. | | Sun. | |
|---------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| Breakfast | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Mid-day Meal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Evening Meal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| After Evening | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

WHICH MEALS DO YOU EAT DURING A TYPICAL WEEK AT YOUR DINING FACILITY?

If you have "brunch" on Saturdays or Sundays, consider it to be a mid-day meal. Be sure to mark each block.

| | Mon. | | Tues. | | Wed. | | Thurs. | | Fri. | | Sat. | | Sun. | |
|---------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| Breakfast | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Mid-day Meal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Evening Meal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| After Evening | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

BEFORE YOU ENTERED THE MILITARY, WHICH MEALS DID YOU USUALLY EAT?

If you ate "brunch" on Saturdays or Sundays, consider it to be a mid-day meal. Be sure to mark each block.

| | Mon. | | Tues. | | Wed. | | Thurs. | | Fri. | | Sat. | | Sun. | |
|---------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| Breakfast | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Mid-day Meal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Evening Meal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| After Evening | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

WHERE DO YOU EAT when you do not eat in the military dining facility? Indicate how often by filling in one circle in each line.

| | Never | Less than once a week | 1-3 times a week | 4-7 times a week | 8-14 times a week | 15 or more times a week |
|--|-----------------------|--------------------------|-----------------------|-----------------------|-----------------------|----------------------------|
| a. Private residence (girlfriend's house, friend's or relative's house, your home, your barracks, bringing your food, etc.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. An installation snack facility (the bowling alley, the exchange, etc.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. An installation NCO club, EM or Airmen Club, or service club | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Diner, snack bar, pizza parlor, or drive-in off the installation (or having it delivered) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Quality restaurant off the installation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Bar or tavern (with alcoholic beverages) off the installation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. From vending machines | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. From mobile snack or lunch trucks | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. Other (write it below and indicate how often) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Listed below are 14 GENERAL AREAS OF CONCERN. For each topic or area, indicate whether it is a significant problem, a minor problem, neither a problem nor an attraction, a minor attraction, or a significant attraction for your dining facility in your opinion.

| | Area or topic | Signifi- cant Problem ⓪ | Minor Problem ⓪ | Neither Problem Nor Attrac- tion ⓪ | Minor Attrac- tion ⓪ | Signifi- cant Attrac- tion ⓪ |
|----|--|----------------------------------|-----------------------|---|-------------------------------|--|
| a. | Convenience of location | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| b. | General dining facility environment | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| c. | Degree of military atmosphere present | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| d. | Desireble eating companions | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| e. | Expense | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| f. | Hours of operation | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| g. | Monotony of same facility | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| h. | Quality of food | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| i. | Quantity of food | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| j. | Service by dining facility personnel | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| k. | Variety of the regular meal food (weekday only) | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| l. | Variety of the regular meal food (weekend only) | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| m. | Variety of the short order food | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| n. | Speed of service or lines | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |

For each of the same 14 general areas, indicate whether it is a major reason for your degree of NON-ATTENDANCE at the dining facility, a minor reason for your degree of non-attendance, or not related to your degree of non-attendance.

| | Area or topic | Major reason for non- attendance | Minor reason for non- attendance | Not related to non- attendance |
|----|--|--|--|--------------------------------------|
| a. | Convenience of location | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. | General dining facility environment | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. | Degree of military atmosphere present | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. | Desirable eating companions | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. | Expense | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. | Hours of operation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. | Monotony of same facility | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. | Quality of food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. | Quantity of food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. | Service by dining facility personnel | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. | Variety of the regular meal food (weekday only) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| l. | Variety of the regular meal food (weekend only) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| m. | Variety of the short order food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| n. | Speed of service or lines | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

If you have a REGULARLY SCHEDULED ACTIVITY which keeps you from attending the dining facility at certain times, indicate how many meals per week you do not attend because of this activity. (Indicate "zero meals not attended" if you have no such activity.)

| | | | | | | | |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Meals not attended: | 0 | 1 | 2-4 | 5 | 6-7 | 8-10 | More than 10 |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Concerning the degree of **MILITARY ATMOSPHERE** which you feel exists in your dining facility at the present time, indicate whether you feel there should be **MORE** or **LESS** military atmosphere in the future.

| | | | | |
|----------------------------|-------------------------------|--------------------------------|-------------------------------|----------------------------|
| A Lot More ⓪ | A Little More ⓪ | About the Same ⓪ | A Little Less ⓪ | A Lot Less ⓪ |
|----------------------------|-------------------------------|--------------------------------|-------------------------------|----------------------------|

Indicate how you usually travel between each of the following locations:

| | Walk | Drive | Ride | Bus | Other (specify) |
|-----------------------------------|------|-------|------|-----|-----------------|
| a. Living area to your job site | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ _____ |
| b. Job site to dining facility | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ _____ |
| c. Living area to dining facility | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ _____ |

Indicate approximately how many minutes it takes you to travel by the means you indicated in the previous questions from your:

| | 1-5 min | 6-10 min | 11-15 min | 16-20 min | 21-25 min | 26-30 min | Over 30 min |
|-----------------------------------|------------|-------------|--------------|--------------|--------------|--------------|----------------|
| a. Living area to your job site | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| b. Job site to dining facility | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| c. Living area to dining facility | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |

Indicate approximately how many **MINUTES** it would take to **WALK** from your:

| | 1-5 min | 6-10 min | 11-15 min | 16-20 min | 21-25 min | 26-30 min | Over 30 min |
|-----------------------------------|------------|-------------|--------------|--------------|--------------|--------------|----------------|
| a. Living area to your job site | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| b. Job site to dining facility | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |
| c. Living area to dining facility | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ | ⓪ |

Is your dining facility ever:

| | Never | Sometimes | Often | Always |
|----------------------------------|-------|-----------|-------|--------|
| a. Too cold | ⓪ | ⓪ | ⓪ | ⓪ |
| b. Too warm | ⓪ | ⓪ | ⓪ | ⓪ |
| c. Stuffy | ⓪ | ⓪ | ⓪ | ⓪ |
| d. Smoky | ⓪ | ⓪ | ⓪ | ⓪ |
| e. Full of steam | ⓪ | ⓪ | ⓪ | ⓪ |
| f. Full of unpleasant food odors | ⓪ | ⓪ | ⓪ | ⓪ |

How often do you find:

| | Never | Sometimes | Often | Always |
|--|-------|-----------|-------|--------|
| a. Inappropriate or missing silverware | ⓪ | ⓪ | ⓪ | ⓪ |
| b. Not enough condiments (ketchup, etc.) | ⓪ | ⓪ | ⓪ | ⓪ |
| c. Left-overs being served day after day | ⓪ | ⓪ | ⓪ | ⓪ |
| d. Serving line has run out of items | ⓪ | ⓪ | ⓪ | ⓪ |

For each pair of items below, please indicate your opinion of THE GENERAL CONDITION OF YOUR DINING FACILITY by darkening the circle which comes closest to describing your feelings.

| | | Extremely | Moderately | Neutral | Moderately | Extremely | |
|----|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------|
| a. | Clean kitchen area | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Dirty kitchen area |
| b. | Insect infested | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Insect free |
| c. | Rodent infested | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Rodent free |
| d. | Clean serving counters | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Dirty serving counters |
| e. | Dirty dispensing devices | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Clean dispensing devices |
| f. | Dirty silverware | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Clean silverware |
| g. | Clean trays | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Dirty trays |
| h. | Clean dishes and glasses | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Dirty dishes and glasses |
| i. | Dirty floors | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Clean floors |
| j. | Dirty tables and chairs | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Clean tables and chairs |
| k. | Brightly lighted | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Dimly lighted |
| l. | Sunny | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Lacking in sunlight |
| m. | Quiet | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Noisy |
| n. | Crowded | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Uncrowded |
| o. | Roomy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Cramped |
| p. | Poorly designed | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Well designed |
| q. | Pleasant view | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Unpleasant view |
| r. | Low number of safety hazards | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | High number of safety hazards |
| s. | Unpleasant exterior appearance | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Pleasant exterior appearance |
| t. | Unpleasant interior appearance | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Pleasant interior appearance |

Indicate your opinions about CONVENIENCES WITHIN YOUR DINING FACILITY.

- | | | Extremely | Moderately | Neutral | Moderately | Extremely | |
|----|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|
| a. | Convenient to enter & leave | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Inconvenient to enter & leave |
| b. | Far from washroom | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Close to washroom |
| c. | Large space between tables allows easy passage | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Small space between tables forbids easy passage |
| d. | Inadequate table size for size of trays | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Adequate table size for trays |

Is the overall APPEARANCE OR ATMOSPHERE of your dining facility:

- | | | | | | | | |
|----|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|
| a. | Colorful | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Drab |
| b. | Cheerful | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Dreary |
| c. | Cluttered | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Uncluttered |
| d. | Beautiful | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Ugly |
| e. | Relaxed | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Tense |
| f. | Sociable | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Unsociable |
| g. | Crowded | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Uncrowded |

Are the TABLES in your dining facility:

- | | | | | | | | |
|----|--------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
| a. | Colorful | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Drab |
| b. | Beautiful | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Ugly |
| c. | Wide variety | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Limited variety |
| d. | Sturdy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Easy to damage |
| e. | Roomy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Cramped |

Indicate the TABLE SIZE you prefer:

| | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 2 persons | 4 persons | 6 persons | 8 persons | More than 8 persons |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Indicate the TABLE SHAPE you prefer:

- ☐ Round
☐ Square or Rectangular

Indicate how often each of the following statements about SOCIAL aspects of your dining facility applies to you.

| | Never | Sometimes | Often | Always |
|---|-----------------------|------------------------------|-----------------------------|-----------------------|
| I line up with my friends for the meal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I always sit with my friends at a dining table | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I always try to claim a certain table as my area | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The feeling of privacy is quite good in this dining hall | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I talk to people at other tables during the meal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Room conditions are acceptable for relaxed conversation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| There is a friendly social atmosphere in this dining hall | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Do you have MUSIC in your dining facility now? | | Yes <input type="radio"/> | No <input type="radio"/> | |

What is your reaction to having MUSIC in the dining facilities:

| Very Acceptable | Mildly Acceptable | Neutral | Mildly Unacceptable | Very Unacceptable |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Indicate the one type of music you would most prefer in the dining facilities:

- ☐ Any type is fine
- ☐ Hard rock
- ☐ Soul
- ☐ Popular
- ☐ Rock and roll
- ☐ Jazz
- ☐ Instrumental
- ☐ Classical
- ☐ Country western
- ☐ A variety of the above
- ☐ Other (write it here) _____
- ☐ Do not want music

Does your dining facility use a SELF BUSSING system in which each person carries his own tray to the dishwashing area?

Yes No
☐ ☐

Indicate how you do or would feel about having SELF BUSSING in the dining facilities:

Very Mildly Mildly Very
Acceptable Acceptable Neutral Unacceptable Unacceptable
☐ ☐ ☐ ☐ ☐

Indicate your opinion about the policies concerning the SEPARATE RATIONS SYSTEMS:

Very Mildly Mildly Very
Acceptable Acceptable Neutral Unacceptable Unacceptable
☐ ☐ ☐ ☐ ☐

Indicate your opinion of the following proposals:

a. In CONUS, everyone should receive the separate rations allowance. Each individual should then pay for the meals he eats in a military dining facility (breakfast: 35 cents; mid-day meal: 80 cents; evening meal: 60 cents).

Extremely Mildly Mildly Extremely
Unfavorable Unfavorable Neutral Favorable Favorable
☐ ☐ ☐ ☐ ☐

b. In CONUS, everyone should receive the separate rations allowance. Each individual should then pay for the specific items he takes from the serving line (2 eggs: 15 cents; hamburger: 20 cents; french fries: 10 cents; chicken: 45 cents).

Extremely Mildly Mildly Extremely
Unfavorable Unfavorable Neutral Favorable Favorable
☐ ☐ ☐ ☐ ☐

c. The current system gives some people a separate rations allowance and requires them to pay for each meal they eat in the dining facility. The others who do not receive that allowance are authorized to eat in the dining facilities without charge. This system should be retained.

Extremely Mildly Mildly Extremely
Unfavorable Unfavorable Neutral Favorable Favorable
☐ ☐ ☐ ☐ ☐

What hours would you like the dining facility to be open for your convenience?

Weekdays: Monday to Friday

| | Breakfast | Mid-Day Meal | Evening Meal |
|----------------------|-----------------------|-----------------------|-----------------------|
| From: | | | |
| 1 hr or more earlier | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30 min earlier | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15 min earlier | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sufficient as it is | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| To: | | | |
| 1 hr or more later | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30 min later | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15 min later | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sufficient as it is | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Weekends: Saturday and Sunday

| | Breakfast | Mid-Day Meal | Evening Meal |
|----------------------|-----------------------|-----------------------|-----------------------|
| From: | | | |
| 1 hr or more earlier | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30 min earlier | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15 min earlier | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sufficient as it is | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| To: | | | |
| 1 hr or more later | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30 min later | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15 min later | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sufficient as it is | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Is the food in your mess hall ever:

| | Never | Sometimes | Often | Always |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Overcooked | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Undercooked | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Cold | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Tasteless or bland | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Burned | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Dried out | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Greasy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. Tough | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. Too spicy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. Raw | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. Still frozen | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| l. Too salty | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Do you ever find that the food in your dining facility is, or has:

| | Never | Sometimes | Often | Always |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Gristle or tendon | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Excess fat | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Stringy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Damaged or bruised (e.g., fruit or vegetables) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Over-ripe fruit | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Under-ripe fruit | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Stale | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. Old looking | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. Sour (e.g., milk) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. Spoiled | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. Off-flavor or odor | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Other than times of dieting, do you ever LEAVE your dining facility WITHOUT ENOUGH TO EAT?

| | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| NEVER | SOMETIMES | OFTEN | ALWAYS |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Do you serve yourself or do the dining facility personnel serve you the following items:

| | SELF-SERVICE | SERVED BY OTHERS |
|-----------------------------|-----------------------|-----------------------|
| a. Short order items | <input type="radio"/> | <input type="radio"/> |
| b. Meat items | <input type="radio"/> | <input type="radio"/> |
| c. Starches (i.e. potatoes) | <input type="radio"/> | <input type="radio"/> |
| d. Vegetables | <input type="radio"/> | <input type="radio"/> |
| e. Salads | <input type="radio"/> | <input type="radio"/> |
| f. Beverages | <input type="radio"/> | <input type="radio"/> |
| g. Desserts | <input type="radio"/> | <input type="radio"/> |

Are SECOND HELPINGS PERMITTED for the following items?

| | Always | Sometimes | Never |
|-----------------------------|-----------------------|-----------------------|-----------------------|
| a. Short order items | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Meat items | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Starches (i.e. potatoes) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Vegetables | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Salads | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Beverages | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Desserts | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Answer the following questions for the regular meal only. Exclude the short order meal.
Indicate "Not Appropriate" (B) if you have self-service and/or second helpings permitted.

a. What is your opinion about the amount of meat per serving:

| | | | | | | | |
|------------|-----|-----|-------------|-----|-----|----------|-----|
| Too Little | | | About Right | | | Too Much | NA |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |

b. What is your opinion about the amount of starches per serving:

| | | | | | | | |
|------------|-----|-----|-------------|-----|-----|----------|-----|
| Too Little | | | About Right | | | Too Much | NA |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |

c. What is your opinion about the amount of vegetables per serving:

| | | | | | | | |
|------------|-----|-----|-------------|-----|-----|----------|-----|
| Too Little | | | About Right | | | Too Much | NA |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |

d. What is your opinion about the amount of dessert per serving:

| | | | | | | | |
|------------|-----|-----|-------------|-----|-----|----------|-----|
| Too Little | | | About Right | | | Too Much | NA |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |

Indicate your opinion about the ABILITY of the COCKS to prepare high quality meals in your dining facilities.

| | | | | | | |
|-----------|-----|-----|---------|-----|-----|-----------|
| Very Poor | | | Average | | | Excellent |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |

Indicate your opinion about the ATTITUDES of the dining facility WORKERS to make your meal as pleasant as possible.

| | | | | | | |
|-----------|-----|-----|---------|-----|-----|-----------|
| Very Poor | | | Average | | | Excellent |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |

Indicate your opinion of the VARIETY of offerings at any particular WEEKDAY meal.

| | We need: | Many More Choices | A Few More Choices | Choices Now Enough | Fewer Choices Acceptable |
|---------------------------|----------|-------------------|--------------------|--------------------|--------------------------|
| a. For short order foods: | | (1) | (2) | (3) | (4) |
| b. For meats: | | (1) | (2) | (3) | (4) |
| c. For starches: | | (1) | (2) | (3) | (4) |
| d. For vegetables: | | (1) | (2) | (3) | (4) |
| e. For salads: | | (1) | (2) | (3) | (4) |
| f. For beverages: | | (1) | (2) | (3) | (4) |
| g. For desserts: | | (1) | (2) | (3) | (4) |

Indicate your opinion of the VARIETY of offerings at any particular WEEKEND meal.

| | We need: | Many More Choices | A Few More Choices | Choices Now Enough | Fewer Choices Acceptable |
|---------------------------|----------|-------------------------|--------------------------|--------------------------|--------------------------------|
| a. For short order foods: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. For meats: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. For starches: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. For vegetables: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. For salads: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. For beverages: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. For desserts: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Indicate your opinion of the VARIETY of foods offered in the menu during the course of a month or so.

| | We need: | Many More Items | A Few More Items | Items Now Enough | Fewer Items Acceptable |
|---------------------|----------|-----------------------|------------------------|------------------------|------------------------------|
| a. For short order: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. For meats: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. For starches: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. For vegetables: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. For salads: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. For beverages: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. For desserts: | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Is CARRY OUT SERVICE available in your dining facility? (Disregard any flight feeding programs in this and the following two questions.)

Yes ☐ No ☐

Indicate how you do or would feel about CARRY OUT SERVICE being available from the dining facilities.

Extremely opposed ☐ ☐ ☐ Neutral ☐ ☐ ☐ Extremely Enthusiastic ☐

If such a CARRY OUT SERVICE were available, how do you feel it would influence your attendance in the military dining facilities?

- ☐ No influence.
- ☐ I would eat a FEW MORE meals per week.
- ☐ I would eat MANY MORE meals per week.

How long do you USUALLY have to WAIT in line at the headcount station TO GET ADMITTED for a meal:

- ☐ I never have to wait in line.
- ☐ I wait between one and five minutes.
- ☐ I wait between five and ten minutes.
- ☐ I wait between ten and fifteen minutes.
- ☐ I wait longer than fifteen minutes.

How long do you USUALLY have to WAIT IN THE SERVING LINE after the headcount before you get your food?

- ☐ I never have to wait in line.
- ☐ I wait between one and five minutes.
- ☐ I wait between five and ten minutes.
- ☐ I wait between ten and fifteen minutes.
- ☐ I wait longer than fifteen minutes.

How long do you USUALLY have to WAIT AT THE DISH WASHING AREA when self-bussing?

- ☐ I never have to wait in line.
- ☐ I wait between one and five minutes.
- ☐ I wait between five and ten minutes.
- ☐ I wait between ten and fifteen minutes.
- ☐ I wait longer than fifteen minutes.
- ☐ Not applicable; no self-bussing.

For each of the following RULES FOR BEHAVIOR, first indicate whether or not the rules exist in your dining facility and then indicate whether you feel it should be ENFORCED OR INSTITUTED, whether you feel it should be ABOLISHED OR NOT INSTITUTED or whether you have NO OPINION about it.

| | Does Rule Exist? | | Enforce or Institute | Abolish or not Institute | No Opinion |
|---|-----------------------|-----------------------|-------------------------|-----------------------------|-----------------------|
| | Yes | No | | | |
| a. Dress regulations | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Not allowing non-military guests | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Calling "at ease" when officer enters | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. No smoking | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Officers and NCO's permitted to cut in line | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Separation of officers and NCO's from enlisted men | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Now we would like to have your opinions of food service systems in general. Therefore, answer the following questions as if your circumstances were different and you held a civilian job instead of being in military service.

Suppose you regularly went out to eat your NOON MEAL and had many places to choose from. Indicate the order of IMPORTANCE of each of the following 10 factors in making your CHOICE OF WHERE TO EAT by darkening the circle under "1st" for the most important factor, darkening the circle under "2nd" for the second most important factor, and so on. Each factor then should have one ranking.

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
|--------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Convenience of location | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. General appearance | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Price | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Quality of food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Quantity of food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Variety of food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Speed of service | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. Availability of music | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. Pleasantness of service personnel | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. Cleanliness | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Suppose you regularly went out to eat your **EVENING MEAL** and had many places to choose from. Indicate the order of **IMPORTANCE** of each of the following 10 factors in making your **CHOICE OF WHERE TO EAT** by darkening the one for the most important factor, darkening the two for the second most important factor, and so on. Each factor then should have one ranking.

| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
|----|-----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. | Convenience of location | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. | General appearance | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. | Price | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. | Quality of food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. | Quantity of food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. | Variety of food | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. | Speed of service | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. | Availability of music | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. | Pleasantness of service personnel | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. | Cleanliness | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Suppose you have decided to have an **INEXPENSIVE NOON** or **EVENING MEAL**. Would you prefer a cafeteria, self-service system or a waitress-service system?

| | | | | | | |
|--------------|------------|----------|---------|----------|------------|------------------|
| | Definitely | Probably | Neutral | Probably | Definitely | |
| Self-service | 6 | 4 | 3 | 4 | 1 | Waitress service |

ALTERNATIVE RATIONS SYSTEM SURVEY

The Department of Defense is currently considering new and different ways of providing food service to troops. In making a final decision, they must decide on three important issues. First, they must decide whether all personnel should receive BAS (Basic Allowance for Subsistence, meaning money instead of free food) or whether only some should receive BAS while others receive SIK (Subsistence In Kind, meaning free food instead of money). Secondly, the decision must be made whether a civilian contractor or the government should operate the dining halls, obtain the food, and provide the food service worker. And, thirdly, they must decide whether an individual eating in the dining hall should: (a) be charged a fixed amount for his meals; (b) be charged only for the items he takes from the serving line; or (c) be able to choose among a more expensive "special" meal, a normally priced "regular" meal, or a less expensive "short order" meal, in each case being charged for the total meal.

An important element in these decisions is how you, the consumer, feel about each of these matters. For each of the three issues mentioned above, therefore, please indicate what decisions you feel would lead to the BEST food system.

ISSUE 1. The BEST food system would have (mark one):

All individuals
receiving BAS
☐

Some receiving BAS and
others receiving SIK
☐

ISSUE 2. The BEST food system would be operated, and the food and food service workers provided, by (mark one):

A civilian contractor
☐

The government
☐

ISSUE 3. The BEST food system would charge the individual (mark one):

A fixed amount
for a meal
☐

For only the
items taken
☐

For a "special," "regular,"
or "short order" meal
☐

Assume that, in designing a new food system, the Department of Defense followed the decisions you just indicated. Then, please answer the following four questions about that food system.

QUESTION 1. Under this food system, I would eat in the dining hall (mark one):

Never
☐

Less than
once a week
☐

1-3 times
a week
☐

4-7 times
a week
☐

8-14 times
a week
☐

15 times or
more a week
☐

QUESTION 2. Under this food system, the amount of plate waste of food would be (mark one):

Extremely
high
☐

Slightly
high
☐

Neither high
nor low
☐

Slightly
low
☐

Extremely
low
☐

QUESTION 3. In terms of the amount of money it would cost me to eat, this food system would be (mark one):

An extremely
good deal
☐

A slightly
good deal
☐

Neither a good
nor bad deal
☐

A slightly
bad deal
☐

An extremely
bad deal
☐

QUESTION 4. My overall opinion of this food system is (mark one):

Extremely
favorable
☐

Slightly
favorable
☐

Neither favorable
nor unfavorable
☐

Slightly
unfavorable
☐

Extremely
unfavorable
☐

ANSWER SHEET/BOOKLET
SERIAL NUMBER

Consider once again the three issues described on the first page of this questionnaire. This time, for each of these three issues, please indicate what decisions you feel would lead to the WORST food system.

ISSUE 1. The WORST food system would have (mark one):

All individuals
receiving BAS
☐

Some receiving BAS and
others receiving SIK
☐

ISSUE 2. The WORST food system would be operated, and the food and food service workers provided, by (mark one):

A civilian contractor
☐

The government
☐

ISSUE 3. The WORST food system would charge the individual (mark one):

A fixed amount
for a meal
☐

For only the
items taken
☐

For a "special," "regular,"
or "short order" meal
☐

Assume, once again, that the Department of Defense followed your decisions in designing a new food system. Again, please answer the following questions about this food system.

QUESTION 1. Under this food system, I would eat in the dining hall (mark one):

Never
☐

Less than
once a week
☐

1-3 times
a week
☐

4-7 times
a week
☐

8-14 times
a week
☐

15 times or
more a week
☐

QUESTION 2. Under this food system, the amount of plate waste of food would be (mark one):

Extremely
high
☐

Slightly
high
☐

Neither high
nor low
☐

Slightly
low
☐

Extremely
low
☐

QUESTION 3. In terms of the amount of money it would cost me to eat, this food system would be (mark one):

An extremely
good deal
☐

A slightly
good deal
☐

Neither a good
nor bad deal
☐

A slightly
bad deal
☐

An extremely
bad deal
☐

QUESTION 4. My overall opinion of this food system is (mark one):

Extremely
favorable
☐

Slightly
favorable
☐

Neither favorable
nor unfavorable
☐

Slightly
unfavorable
☐

Extremely
unfavorable
☐

Currently, I receive (mark one):

☐ BAS (money instead of free food)

☐ SIK (free food instead of money)

APPENDIX B
Consumer Interviews

APPENDIX B

INTERVIEW PROTOCOL FOR PRE-TEST AT LORING AFB

1. Name
2. Social Security Number
3. Unit
3. Are you currently receiving separate rations or subsistence in-kind?
4. Age (rounded to whole years)
5. Time in service (rounded to whole years)
6. Are you married and currently living with your wife?
(no=0; yes=1)
7. Will you make a career of the military? (no=0; yes=1; uncertain=2)
8. Currently, how many meals do you have in the dining hall during a typical week?
9. (If the answer to #8 is "none" ask the following question, otherwise enter a X.) Have you ever eaten in the dining hall?
(no=0; yes=1)
10. What is the one main reason you don't have meals in the dining hall more frequently?
11. (When he appears finished, ask the following question) Are there any other reasons? (If not, enter a X.)
12. In general, are you satisfied with the effort the Air Force has made to provide you with good food? Please use this chart to answer (A).
13. (If the answer to #12 indicates dissatisfaction ask the following question, otherwise enter a X.) In what ways do you feel they have failed?
14. What one change would you most like to see made in the Air Force food system as it affects you? This includes the food, the dining facility, the service, and the overall ration system in general.

15. (When he appears finished, ask the following;) Are there any other changes you would like to see made? (If not, enter an X.)
16. On the other side of the coin, what one thing do you best like about the Air Force food system as it affects you. Again this includes the food, the dining facility, the service, and the overall ration system.
17. (When he appears finished, ask the following;) Are there any other things which you specifically like about the food system? (If not, enter a X).
18. Is there anything the Air Force can do to increase your and other's attendance in the dining hall? (no=0; yes=1) Will this increase the attendance?
19. (If answer to #18 is "yes", ask the following question, otherwise enter a X). What is that? Is there anything else?
20. Have you heard about any changes in the food system here at Loring which are planned for the near future? (no=0; yes=1)
21. (If the answer to #20 is "yes" ask the following, otherwise enter an X). What exactly have you heard? Is there anything else?
22. Would you rather be on separate rations where you are given \$2.28 per day for food, or on subsistence-in-kind where you are authorized to eat in the dining hall for free? Please use this chart to give your answer (B)
23. Why? Is there anything else?
24. (If the answer to #22 was in favor of separate rations ask the following, otherwise enter an X). Would (Is) \$2.28 per day enough for you to eat adequately? Please use this chart to answer (C).
25. (If the answer to #24 is negative ask the following, otherwise enter an X). According to your eating habits, how much would you need to eat adequately on any given day?
26. (If the answer to #22 was in favor of separate rations and if the answer to #24 is negative ask the following. Otherwise enter an X). You say you prefer separate rations even though the amount of money provided is inadequate. Wouldn't

you prefer subsistence-in-kind where you would get all the food you want for free? (no=0; yes=1)

27. (If the interviewee is on SIK ask the following question, otherwise enter an X.) If you were put on separate rations, would you eat in the dining hall any more or less often than you do now? Please use this chart to give your answer (D).
28. (If interviewee is on SIK ask the following question, otherwise enter an X). Would you be any more or less likely to stay in the military if you were put on separate rations? Please use this chart to give your answer (E)
29. (If interviewee is on separate rations ask the following, otherwise enter an X). If you were put on subsistence-in-kind, would you eat in the dining hall any more or less often than you do now? Please use this chart to give your answer (D).
30. (If the interviewee is on separate rations ask the following, otherwise enter an X). Would you be any more or less likely to stay in the military if you were put on subsistence-in-kind? Please use this chart to give your answer (E).
31. (The first clause is included only if the interviewee is on SIK.) If you were on separate rations, would you rather pay a flat price for the meals you eat in the dining hall or item-by-item for each food you take. Please use this chart to answer (F).
32. (The first clause is included only if the person is on SIK.) Again assuming you were on separate rations, would you have meals in the dining hall any more or less often if pricing was by the item rather than by the meal. Use this chart to answer (D).
33. Would you eat any differently in the dining hall if you paid for each food you took rather than a flat price for the entire meal? (no=0; yes=1)
34. (If the answer to #33 is "yes" ask the following, otherwise enter an X.) What would you change?
35. What would you feel about an Air Force - wide change in which everybody, from the youngest airmen up, would be placed on separate rations? Please use this chart to give your answer (G).

36. (If the answer to #35 disagrees with that to #22, ask the respondent to explain. Otherwise enter an X).
37. At how many other nonremote installations have you been assigned where you ate regularly in the installation dining hall? Were you accompanied by your family?
38. How often do you eat meals at this dining hall in comparison to dining halls at those installations? Please use this chart to answer (H).
39. How would you rate this dining hall, in comparison to the dining halls at those installations. Please use this card to answer (I).

Response Categories for Scaled Questions

| Code | No. | Category |
|------|-----|--------------------------------------|
| A | 1 | Extremely dissatisfied |
| | 2 | Slightly dissatisfied |
| | 3 | Neither dissatisfied nor satisfied |
| | 4 | Slightly satisfied |
| | 5 | Extremely satisfied |
| B | 1 | Extremely prefer subsistence-in-kind |
| | 2 | Slightly prefer subsistence in kind |
| | 3 | No preference |
| | 4 | Slightly prefer separate rations |
| | 5 | Extremely prefer separate rations |
| C | 1 | Extremely less than what is needed |
| | 2 | Slightly less than what is needed |
| | 3 | Just enough |
| | 4 | Slightly more than what is needed |
| | 5 | Extremely more than what is needed |
| D | 1 | Extremely less often |
| | 2 | Slightly less often |
| | 3 | No more or less often |
| | 4 | Slightly more often |
| | 5 | Extremely more often |
| E | 1 | Extremely less likely to stay in |
| | 2 | Slightly less likely to stay in |
| | 3 | No more or less likely to stay in |
| | 4 | Slightly more likely to stay in |
| | 5 | Extremely more likely to stay in |
| F | 1 | Extremely prefer meal pricing |
| | 2 | Slightly prefer meal pricing |
| | 3 | No preference |
| | 4 | Slightly prefer item pricing |
| | 5 | Extremely prefer item pricing |
| G | 1 | Strongly oppose such a change |
| | 2 | Slightly oppose such a change |
| | 3 | Don't care |
| | 4 | Slightly support such a change |
| | 5 | Strongly support such a change |

- | | | |
|---|---|-----------------------|
| H | 1 | Much more often |
| | 2 | Slightly more often |
| | 3 | No more or less often |
| | 4 | Slightly less often |
| | 5 | Much less often |
| I | 1 | Much worse |
| | 2 | Slightly worse |
| | 3 | No better or worse |
| | 4 | Slightly better |
| | 5 | Much better |

INTERVIEW PROTOCOL FOR POST-TEST AT LORING AFB

1. Name
2. Unit
3. Social Security Number
4. Age (to the nearest year)
5. Time in service (to the nearest year)
6. Are you married and currently living with your spouse?
(no=0; yes=1)
7. Will you make a career of the military? (no=0; yes=1; uncertain=2)
8. In January, some changes were made in the dining system here at Loring. Do you know what they were? (If not, enter a Z)
9. Before the changes were you receiving separate rations?
(no=0; yes=1)
10. How many meals do you eat during a typical week, Monday through Sunday, regardless of where you eat them?
11. Before the changes in the dining hall were made in January, how many meals did you eat there during a typical week?
12. Before January, did you ever eat in the dining hall? (no=0; yes=1)
13. Right now, how many meals do you eat in the dining hall during a typical week?
14. Have you eaten there at all since January? (no=0; yes=1)
15. What is the one main reason you eat there more (less) often now than before the changes were made?
16. (When he appears finished:) Are there any other reasons?
(If not, enter a Z).
17. One change in the dining hall was to run it like a cafeteria where people are charged for each food they take rather than a flat price for the entire meal. Did this change have

anything to do with your increase (decrease) in attendance?
(no=0; yes=1)

18. Why?

19. Another change put you on separate rations? Did this change have anything to do with your increase (decrease) in attendance?
(no=0; yes=1)

20. Why?

21. What is the one main reason you don't eat in the dining hall more frequently?

22. (When he appears finished:) Are there any other reasons?
(If not, enter a Z)

23. When you came in the Air Force, you made a contract with the government. As part of this contract, they agreed to provide you with subsistence. In your case, they're doing this by giving you money, separate rations. They also provide the food and service in the dining hall. Now, taking all of those things into account, how satisfied are you with the efforts the Air Force has made to keep this part of the contract? Please use this chart to answer (A).

24. What one change would you most like to see made in the Air Force food system as it affects you? This includes the food, the dining facility, the service, and the overall rations system in general.

25. (When he appears finished:) Are there any other changes you would like to see made? (If not, enter a Z).

26. In general, is there anything the Air Force can do to increase peoples' attendance in the dining halls? (no=0; yes=1)

27. What is that?

28. Would your attendance increase if these changes were made?
(no=0; yes=1)

29. Do you know what the current daily separate rations allowance is? (no=0; yes=1)

30. Is \$2.41 per day enough for you to eat adequately? Please use this chart to answer. (B)

31. According to your present eating habits, how much money would you need to eat adequately on a typical day?
32. Would you prefer to remain on separate rations or to go back to rations-in-kind where you are authorized to eat in the dining hall for free? Please use this chart to answer. (C)
33. Why?
34. What would you feel about an Air Force-wide change in which everybody, from the youngest airmen up, would be placed on separate rations, like it is here at Loring? Please use this chart to answer. (D)
35. Why?
36. Do you find that you eat any differently toward the end of a pay period than at the beginning of the period? (If not, enter a Z)
37. Do you eat any more or less often toward the end of a pay period than at the beginning of the period (no=0; less=1; more=2)
38. Is the amount of money you pay for a meal any more or less toward the end of a pay period than at the beginning of the period? (no=0; less=1; more=2)
39. Do you eat in the dining hall any more or less often toward the end of the pay period than at the beginning of the period? (no=0; less=1; more=2)
40. Do you prefer the present system in the dining hall where you pay item-by-item for the things you take or the previous system where you paid a flat price for the entire meal? Please use this chart to answer. (E)
41. Why?
42. When you eat in the dining hall, do you eat any differently now than before the changes in the dining hall were made? (If not, enter a Z)
43. Do you spend any more or less money for a meal now than before the changes were made? (no=0; less=1; more=2)
44. How much do you spend on a typical noon meal in the dining hall?
45. Why?

46. Is the amount of food you eat at a meal in the dining hall any more or less now than before the changes were made? (no=0; less=1; more=2)
47. Are the kinds of foods you eat at a meal in the dining hall any different now than before the changes were made? (no=0; yes=1)
48. What has changed?
49. Have you noticed whether people are leaving any more or less food on their plates now than before the changes were made? (no=0; less=1; more=2)
50. Is the wait in line any shorter or longer since the changes were made? (no=0; shorter=1; longer=2)
51. Is the food in the dining hall any better or worse now than before the changes were made? (no=0; worse=1; better=2).
52. What is better (worse) about it?
53. At how many other installations have you been assigned?
54. How would you rate this dining hall in comparison to the dining halls at those other installations. Please use this chart to answer. (F).

APPENDIX C

Worker Survey and Interviews

APPENDIX C

Military

FOOD SERVICE PERSONNEL SURVEY

The purpose of this survey is to find out how you feel about some of the conditions of your job. Please answer every question CAREFULLY and HONESTLY. We will talk to each of you individually in the next few days, and you will be able to make any comments which do not fit into the answers on this survey at that time. Because of this interview, we need your name on this survey. NO INDIVIDUAL SURVEY WILL EVER BE SEEN BY ANYONE AT THIS AFB OR IN THE AIR FORCE! If you answer all of the questions honestly, we will be able to present your opinions, as a group, to the organization working on the Food Service System for the Air Force

1. Name _____
2. Facility number (To be supplied by testers) _____
3. Rank _____
4. Age _____ YRS
5. Shift: From _____ To _____
6. How long have you worked in food service at this AFB? _____ Yrs _____ Months
7. How long have you worked in food service in your AF career?
_____ Yrs _____ Months
8. What do you do in your present job?
9. Circle the ONE letter showing your HIGHEST level of education
 - a. Some Grade School
 - b. Finished Grade School
 - c. Some High School
 - d. High School Graduate (includes GED)
 - e. Post High School Technical Training
 - f. Some College
 - g. College Graduate
 - h. Beyond College
10. Circle the letter showing how much you like military service.

| | |
|-----------------------|--------------------|
| a. Dislike very much | d. Neutral |
| b. Dislike moderately | e. Like a little |
| c. Dislike a little | f. Like moderately |
| | g. Like very much |

FOOD SERVICE PERSONNEL SURVEY

The purpose of this survey is to find out how you feel about some of the conditions of your job. Please answer every question CAREFULLY and HONESTLY. We will talk to each of you individually in the next few days, and you will be able to make any comments which do not fit into the answers on this survey at that time. Because of this interview, we need your name on this survey. NO INDIVIDUAL SURVEY WILL EVER BE SEEN BY ANYONE AT THIS AFB OR IN THE AIR FORCE! If you answer all of the questions honestly, we will be able to present your opinions, as a group, to the organization working on the Food Service System for the Air Force.

1. Name _____
2. Facility Number (To be supplied by testers) _____
3. Grade Level _____
4. Age _____ Yrs.
5. Shift: From _____ To _____
6. How long have you worked in food service at this AFB? ___ Yrs ___ Months.
7. How long have you worked in food service in your entire career?
___ Yrs ___ Months.
8. What do you do in your present job?
9. Circle the ONE letter showing your HIGHEST level of education.
 - a. Some Grade School
 - b. Finished Grade School
 - c. Some High School
 - d. High School Graduate (includes GED)
 - e. Post-High School Technical Training
 - f. Some College
 - g. College Graduate
 - h. Beyond College

Description of the Work, People, Pay, Promotions and Supervision on Your Present Job.

Below are five groupings of items. Each group represents some aspect of your present job. We'd like you to indicate your feelings about these aspects by circling "Y" (yes) if the item is descriptive of your present job. "N" (no) if it is not descriptive and "?" if you cannot decide.

Again, we appreciate your cooperation.

WORK

| | | | |
|-------------------------------|---|---|---|
| Fascinating | Y | N | ? |
| Routine | Y | N | ? |
| Satisfying | Y | N | ? |
| Boring | Y | N | ? |
| Good | Y | N | ? |
| Creative | Y | N | ? |
| Respected | Y | N | ? |
| Hot | Y | N | ? |
| Pleasant | Y | N | ? |
| Useful | Y | N | ? |
| Tiresome | Y | N | ? |
| Healthful | Y | N | ? |
| Challenging | Y | N | ? |
| On Your Feet | Y | N | ? |
| Frustrating | Y | N | ? |
| Simple | Y | N | ? |
| Endless | Y | N | ? |
| Gives sense of accomplishment | Y | N | ? |

SUPERVISION

| | | | |
|--------------------------|---|---|---|
| Asks my Advice | Y | N | ? |
| Hard to Please | Y | N | ? |
| Impolite | Y | N | ? |
| Praises Good Work | Y | N | ? |
| Tactful | Y | N | ? |
| Influential | Y | N | ? |
| Up-to-date | Y | N | ? |
| Doesn't supervise enough | Y | N | ? |
| Quick-tempered | Y | N | ? |
| Tells me where I stand | Y | N | ? |
| Annoying | Y | N | ? |
| Stubborn | Y | N | ? |
| Knows job well | Y | N | ? |
| Bad | Y | N | ? |
| Intelligent | Y | N | ? |
| Leaves me on my own | Y | N | ? |
| Around when needed | Y | N | ? |
| Lazy | Y | N | ? |

PEOPLE

| | | | |
|-------------|---|---|---|
| Stimulating | Y | N | ? |
| Boring | Y | N | ? |

PEOPLE, CON'T

| | | | |
|----------------------|---|---|---|
| Slow | Y | N | ? |
| Ambitious | Y | N | ? |
| Stupid | Y | N | ? |
| Responsible | Y | N | ? |
| Fast | Y | N | ? |
| Intelligent | Y | N | ? |
| Easy to Make Enemies | Y | N | ? |
| Talk too much | Y | N | ? |
| Smart | Y | N | ? |
| Lazy | Y | N | ? |
| Unpleasant | Y | N | ? |
| No privacy | Y | N | ? |
| Active | Y | N | ? |
| Narrow Interests | Y | N | ? |
| Loyal | Y | N | ? |
| Hard to meet | Y | N | ? |

PAY

| | | | |
|-------------------------------------|---|---|---|
| Income adequate for normal expenses | Y | N | ? |
| Satisfactory profit sharing | Y | N | ? |
| Barely live on income | Y | N | ? |
| Bad | Y | N | ? |
| Income provides luxuries | Y | N | ? |
| Insecure | Y | N | ? |
| Less than I deserve | Y | N | ? |
| Highly paid | Y | N | ? |
| Underpaid | Y | N | ? |

PROMOTIONS

| | | | |
|----------------------------------|---|---|---|
| Good opportunity for advancement | Y | N | ? |
| Opportunity somewhat limited | Y | N | ? |
| Promotion on ability | Y | N | ? |
| Dead-end job | Y | N | ? |
| Good chance for promotion | Y | N | ? |
| Unfair promotion policy | Y | N | ? |
| Infrequent promotions | Y | N | ? |
| Regular promotions | Y | N | ? |
| Fairly good chance for promotion | Y | N | ? |

For each pair of items below, please indicate your opinion of the GENERAL
CONDITION OF YOUR KITCHEN by checking the line which comes closest to
describing your feelings

| | Extremely | Moderately | Neutral | Moderately | Extremely | |
|--------------------------------|-----------|------------|---------|------------|-----------|-------------------------------|
| Clean kitchen area | — | — | — | — | — | Dirty kitchen area |
| Insect infested | — | — | — | — | — | Insect free |
| Dirty Floors | — | — | — | — | — | Clean floors |
| Brightly lighted | — | — | — | — | — | Dimly lighted |
| Quiet | — | — | — | — | — | Noisy |
| Crowded | — | — | — | — | — | Uncrowded |
| Roomy | — | — | — | — | — | Cramped |
| Poorly designed | — | — | — | — | — | Well designed |
| Low number of safety hazards | — | — | — | — | — | High Number of Safety hazards |
| Unpleasant interior appearance | — | — | — | — | — | Pleasant interior appearance |
| New equipment | — | — | — | — | — | Old equipment |
| Hot | — | — | — | — | — | Cold |
| Poor Equipment | — | — | — | — | — | Good Equipment |

FOOD SERVICE PERSONNEL PRE-TEST INTERVIEW

1. Are there any comments you'd like to add to the paper and pencil survey you took earlier _____

2. Do you NOW feel that you need MORE training to do your present job better? _____ If yes, what type of training? _____
3. Do you feel you want additional training to advance in food service? _____ If yes, what type of training? _____
If no, why not? _____
4. What do you think about the new system they're planning for this dining facility? Anything good? _____

Anything bad? _____
5. Will it make your job easier or harder? _____ Why? _____

6. How many military dining facilities have you worked in other than at this base? _____
7. How does this dining facility compare with others in which you have worked? (SHOW CARD) _____
8. If you were fired or left the military would you attempt to find employment in food service at a military base or in civilian food service (SHOW CARD) _____

MILITARY ONLY

9. Did you request assignment to food service? _____
10. Would you like to transfer to duties other than in food service? _____
11. If you do wish to be transferred to other duties, what are the main reasons? _____

ALL

Is there anything else you would like to add about the food service system at this base? _____

FOOD SERVICE PERSONNEL POST-TEST INTERVIEW

Do you NOW feel that you need more training to do your present job better? _____

If yes, what type of training? _____

Did you request assignment to food service (MIL ONLY) _____

Would you like to get out of food service? _____

Why? _____

I would like to know, in general, about this new system that's being put in here. First, let me ask you to compare it to the old, meal card system using this card. A15

What's good about the new system in general?

What's bad about the new system in general?

Has the new system made your job easier or harder or has it stayed the same? B-21

Why?

Has it made your job better or worse or has it stayed the same? C-24

Why?

In general, is there anything the Air Force can do to increase peoples attendance in the dining halls? (no=0; yes=1)

What is that?

Do you think there has been an overall increase or decrease in attendance since the changeover to the new system, or has it stayed the same? D-30

Would you as a food service worker prefer the customers to remain on separate rations, or go back to rations-in-kind where they are authorized to eat in the dining hall for free? E-32

Why?

Do you think the customers (all on BAS) would prefer the present system in the dining hall where they pay item by item for the things they take or the previous system where they paid a flat price for the entire meal? F-34

Which system would you, as a food service worker, prefer? F-43
Why?

Do the customers who eat in this facility eat any differently now than before the changes in the dining hall were made? No=2

Do you feel that the customers tend to eat any differently toward the end of a pay period than at the beginning of the period? (no=0; yes=1)

If yes, in what way?

Is the amount of food the average customer eats at a meal in the dining hall any more or less now than before the changes were made? (no=0; less=1; more=2)

Are the kinds of foods the average customer eats at a meal in the dining hall any different now than before the changes were made? (no=0; yes=1)
If yes, what has changed?

Have you noticed whether people are leaving any more or less food on their plates now than before the changes were made? (no=0; less=1; more=2)

Is the wait in line any shorter or longer since the changes were made? (no=0; shorter=1; longer=2)

Is the food in the dining hall any better or worse now than before the changes were made? (no=0; worse=1; better=2)

What is better (worse) about it?

Why is it better (worse)?

APPENDIX D
Statistical Analyses

Appendix D

1. Where appropriate, only the type of statistical test, the obtained value, and its significance level will be reported. In instances of more complex analyses, however, a more detailed description will be given. Because these results will help determine the feasibility of large scale, costly changes in military dining halls, it was felt that the consequences attendant upon falsely rejecting the null hypothesis (concluding that two sets of responses differed when, in fact, they did not) were more serious than those resulting from falsely accepting that hypothesis (concluding that the responses did not differ when, in fact, they did). Consequently, a relatively stringent level of significance (.01) was adopted, except where noted.
2. A two-way analysis of variance (Pre/Post x BAS/RIK) revealed a significant interaction ($F=6.66$, $df=1,537$, $P < .01$), which represented a significant pre-post difference for the BAS's ($F=4.15$, $df=1,251$, $P < .05$), but not for the RIK's.
3. BAS: $t=4.63$, $df=84$, $P < .01$, two-tailed
RIK: $t=1.12$, $df=98$, $P > .20$, two-tailed
4. BAS: $t=3.00$, $df=253$, $P < .01$, two-tailed
RIK: $t=1.92$, $df=288$, $P > .05$, two-tailed
5. BAS: $t=4.83$, $df=253$, $P < .01$, two-tailed
RIK: $t=4.62$, $df=288$, $P < .01$, two-tailed
6. BAS: $t=0.45$, $df=98$, $P > .50$, two-tailed
RIK: $t=2.32$, $df=98$, $P < .02$, two-tailed
7. BAS: $\chi^2=6.98$, $df=1$, $P < .01$
RIK: $\chi^2=8.42$, $df=1$, $P < .01$
8. A three-way analysis of variance (Pre/Post x BAS/RIK x Meals) revealed a significant main effect for meals ($F=11.24$, $df=1,1437$, $P < .01$) and a significant Pre-Post x BAS/RIK interaction ($F=4.35$, $df=3,1437$, $P < .01$). The former was found (via the Scheffe technique) to involve a significant difference between the after-evening meal and the breakfast, mid-day, and evening meals, together, with no significant differences among the latter three. The significant interaction was comprised of a significant pre-post increase for the BAS's ($F=12.03$, $df=1,590$, $P < .01$) and a significant decrease for the RIK's ($F=12.03$, $df=1,847$, $P < .01$). The last effects represented a significant BAS/RIK difference at each meal (F , $P < .01$).

9. $F = 125.38$, $df = 1,530$, $P < .01$
10. Diners, snack bars, etc. - $F = 21.24$, $df = 1, 524$, $P < .01$
 Bar or tavern - $F = 12.37$, $df = 1,510$, $P < .01$
 Mobile lunch truck - $F = 13.91$, $df = 1,537$, $P < .01$
11. $F = 12.72$, $df = 1,518$, $P < .01$
12. $F = 7.67$, $df = 1,523$, $P < .01$
13. $F = 7.41$, $df = 1,523$, $P < .01$
14. $F = 21.81$, $df = 1,513$, $P < .01$
15. $t = 2.63$, $df = 98$, $P < .01$, two-tailed
16. $t = 2.32$, $df = 98$, $P < .05$, two-tailed
17. $t = 3.07$, $df = 68$, $P < .01$, two tailed
18. $t = 3.24$, $df = 74$, $P < .01$, two-tailed
19. Interview: BAS: $-t = 2.86$, $df = 63$, $P < .01$, two-tailed
 RIK: $-t = 3.54$, $df = 88$, $P < .01$, two-tailed
 Survey: $F = 19.77$, $df = 1,519$, $P < .01$
20. $t = 2.43$, $df = 88$, $P < .02$, two-tailed
21. BAS: $t = 2.75$, $df = 98$, $P < .01$, two-tailed
 RIK: $t = 2.67$, $df = 93$, $P < .01$, two-tailed
22. $\chi^2 = 22.98$, $df = 6$, $P < .01$
23. General dining environment: $F = 15.72$, $df = 1,520$, $P < .01$
 Monotony of same facility: $F = 6.85$, $df = 1,520$, $P < .01$
 Quality of the food: $F = 13.53$, $df = 1,519$, $P < .01$
 Variety of short order food: $F = 31.37$, $df = 1,513$, $P < .01$
24. Dried out: $\chi^2 = 12.02$, $df = 3$, $P < .01$
 Tough: $\chi^2 = 22.82$, $df = 3$, $P < .01$
 Too salty: $\chi^2 = 16.06$, $df = 3$, $P < .01$
 Full of gristle: $\chi^2 = 15.29$, $df = 3$, $P < .01$
25. In a three-way analysis of variance (Pre/Post, BAS/RIK, Food Class), main effects were obtained for the Pre/Post factor ($F = 27.99$, $df = 1,1776$, $P < .01$) and the Food Class Factor ($F = 86.02$,

df = 1,1776, $P < .01$), and interaction effects for Pre/Post x Food Class ($F = 5.65$, $df = 3,1776$, $P < .01$). Following-up the latter interaction, significant Pre/Post simple effects were obtained for vegetables ($F = 15.77$, $df = 1,449$, $P < .01$), starches ($F = 17.70$, $df = 1,454$, $P < .01$), and desserts ($F = 8.93$, $df = 1,400$, $P < .01$), but not for meats ($F = .07$, $df = 1,473$, $P > .5$).

26. Via Scheffe, pairwise comparisons among the food class means collapsed over all other factors (see #25 above) revealed significant differences (at the .01 level) between meals and all other foods together, with no other differences occurring among the remainder.

27. The variety data were subjected to three separate three-way analyses of variance (Pre/Post, BAS/RIK, Food Class), one for weekday variety, one for weekend variety, and the third for monthly variety.

- a. Weekday Variety. Significant effects were obtained for the BAS/RIK factor ($F = 33.59$, $df = 1,3538$, $P < .01$), the Food Class factor ($F = 18.04$, $df = 6,3538$, $P < .01$), and the Pre/Post x BAS/RIK interaction ($F = 4.46$, $df = 1,3538$, $P < .01$). Follow-ups to the interaction revealed a significant Pre/Post simple effect for only the RIK's ($F = 6.15$, $df = 6,1967$, $P < .02$).
- b. Weekend Variety. Significant effects were obtained only for the BAS/RIK factor ($F = 55.48$, $df = 1,3491$, $P < .01$) and the Food Class factor ($F = 55.48$, $df = 6,3491$, $P < .01$).
- c. Monthly Variety. Again, significant effects were obtained for only the BAS/RIK effect ($F = 42.13$, $df = 1,3519$, $P < .01$) and the food class effect ($F = 19.61$, $df = 6,3519$, $P < .01$).

28. $F = 12.24$, $df = 1,504$, $P < .01$

29. $x^2 = 12.86$, $df = 3$, $P < .01$

30. $x^2 = 11.62$, $df = 2$, $P < .01$

31. $x^2 = 9.95$, $df = 2$, $P < .01$

32. $x^2 = 8.82$, $df = 2$, $P < .01$

APPENDIX E

Complete Consumer Interview Responses

Appendix E

Contained in this appendix is a detailed account of pre- and post-test airmen's responses to open-ended interview questions. Presented are the response frequencies. It should be noted in this regard that many questions allowed for more than one response. Nonetheless, each group contained 50 persons so that the below columns can be directly compared.

1. Question: What is the main, and other reason(s) you don't eat in the dining hall more often?

| | <u>Main Reason</u> | | | | <u>Other Reason(s)</u> | | | |
|---------------------------|--------------------|-------------|------------|-------------|------------------------|-------------|------------|-------------|
| | <u>BAS</u> | | <u>RIK</u> | | <u>BAS</u> | | <u>RIK</u> | |
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> |
| Convenience | | | | | | | | |
| Hours | 3 | 1 | 7 | 1 | 1 | 2 | | 1 |
| Convenience | 2 | 8 | 1 | 2 | 6 | 2 | 6 | 3 |
| Food | | | | | | | | |
| Variety | 2 | 3 | 4 | 5 | 2 | 2 | 8 | 4 |
| Taste | 2 | 1 | 5 | 2 | 4 | | 3 | |
| Quantity | 2 | | | | 1 | | 2 | 1 |
| Nutrition | 1 | | 1 | 1 | | | | 1 |
| Temperature | 1 | | | 2 | | 1 | | |
| Specific | | | | | | 1 | 7 | 1 |
| Quality | 2 | | 4 | 7 | 2 | 2 | 5 | 1 |
| Miscellaneous | | | | | 1 | | 1 | |
| Environment | | | | | | | | |
| Atmosphere | 1 | | 1 | 2 | 1 | 1 | 5 | 1 |
| Cleanliness | | 1 | | | | | | |
| Crowdedness | | | 2 | 1 | 4 | 2 | 2 | 2 |
| Monotony | 1 | | 3 | | | | 1 | |
| Miscellaneous | | | | | | | 1 | |
| Worker | | | | | | | | |
| Attitude | | | | | 4 | | 1 | 1 |
| Miscellaneous | | | | | 1 | | 2 | 1 |
| Expense | 5 | 2 | | | 4 | 4 | 1 | 2 |
| General- | | | | | | | | |
| Miscellaneous | 1 | 1 | 3 | 1 | 2 | 2 | 7 | 3 |
| Incompatible- | | | | | | | | |
| Habits | | | | | | | | |
| Eat at home | 20 | 23 | 4 | 5 | 6 | 2 | 3 | 1 |
| Eat elsewhere | 2 | 6 | 1 | 8 | 3 | | 2 | 3 |
| Miscellaneous | 1 | | 1 | 6 | 2 | | | 1 |
| Don't eat 3 meals/ day | 4 | 1 | 12 | 6 | 1 | 1 | | 1 |
| No answer | | 3 | 1 | 3 | 19 | 29 | 14 | 22 |
| Question not asked | | | | | | 2 | 1 | 4 |

2. Question: What can be done to increase attendance in military dining halls?

| | <u>BAS</u> | | <u>RIK</u> | |
|-----------------------|------------|-------------|------------|-------------|
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> |
| Convenience | | | | |
| Hours | 2 | 3 | 2 | 2 |
| Convenience | 1 | 1 | 2 | 2 |
| Food | | | | |
| Variety | 11 | 10 | 17 | 6 |
| Taste | 3 | 2 | 8 | 2 |
| Quantity | 1 | | 2 | 1 |
| Quality | 13 | 8 | 9 | 9 |
| Nutrition | | | | |
| Temperature | 2 | 1 | | 1 |
| Specific | 2 | | 3 | 3 |
| Miscellaneous | | 1 | 6 | |
| Environment | | | | |
| Atmosphere | 10 | 3 | 12 | 10 |
| Furnishings | 1 | | 2 | 2 |
| Lighting | | 1 | 1 | 1 |
| Music | 2 | 4 | 5 | 5 |
| Cleanliness | | | 2 | |
| Crowdedness | | 2 | 15 | 1 |
| Miscellaneous | 1 | | 2 | |
| Worker | | | | |
| Attitude | 6 | 4 | | 3 |
| Speed | 2 | | | 1 |
| Miscellaneous | 2 | 1 | 2 | 6 |
| Expense | 1 | 2 | | 3 |
| General Miscellaneous | 3 | 5 | | 1 |
| Systems Changes | | | | |
| All-BAS | | | 3 | |
| Item-Pricing | 3 | | 3 | |
| Civilian operation | | 1 | 2 | |
| Announce menu | 3 | | | |
| Miscellaneous | 7 | 2 | 2 | 2 |
| No answer | 1 | 2 | 3 | 3 |
| Question not asked | 9 | 16 | 8 | 13 |

3. Question: What main, and other, changes(s) would you like to see in the military dining system?

| | <u>Main Change</u> | | | | <u>Other Change(s)</u> | | | |
|--------------------|--------------------|-------------|------------|-------------|------------------------|-------------|------------|-------------|
| | <u>BAS</u> | | <u>RIK</u> | | <u>BAS</u> | | <u>RIK</u> | |
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> |
| Convenience | | | | | | | | |
| Hours | | | | 2 | 1 | | 3 | |
| Convenience | | | | | 1 | | 1 | |
| Food | | | | | | | | |
| Variety | 9 | 2 | 11 | 7 | 4 | | 6 | 5 |
| Taste | 1 | | 1 | | 1 | | 1 | 1 |
| Quantity | 2 | 1 | 1 | 1 | 2 | | 3 | 1 |
| Quality | 2 | 3 | 3 | 6 | 2 | | 9 | 5 |
| Nutrition | 2 | | | | | | | 2 |
| Temperature | 1 | | | 1 | 1 | 1 | | |
| Specific | 1 | 1 | 3 | 1 | 1 | | | 5 |
| Miscellaneous | 1 | 1 | | 1 | | 2 | 2 | |
| Environment | | | | | | | | |
| Atmosphere | 2 | 1 | 5 | 4 | 2 | | 4 | 2 |
| Furnishing | | | | 1 | | | 2 | |
| Lighting | | | | | | | 3 | 1 |
| Music | | 1 | | | | | 3 | 1 |
| Cleanliness | | | | | | | 2 | |
| Crowdedness | 1 | | | | 1 | | 2 | |
| Miscellaneous | 1 | | | | | 1 | 1 | |
| Worker | | | | | | | | |
| Attitude | 2 | 2 | | | | | 1 | 1 |
| Speed | 1 | | | | | | | 1 |
| Miscellaneous | | | 1 | | | | | 3 |
| Expense | | 2 | | 1 | | | | 2 |
| General- | | | | | | | | |
| Miscellaneous | 1 | 4 | | 2 | 1 | | 3 | 3 |
| System Changes | | | | | | | | |
| Increase Allowance | 8 | 20 | | 6 | 4 | 1 | | |
| BAS/RIK Choice | 7 | 2 | 17 | 4 | | 1 | 1 | |
| Item Pricing | | | | | 3 | | 3 | |
| Civilian operation | | | 5 | | | 1 | 1 | |
| Announce/follow | | | | | | | | |
| Menu | | | | | 1 | | 3 | |
| Miscellaneous | 2 | | | | | 1 | 2 | |
| No answer | 5 | 7 | 3 | 7 | 22 | 37 | 15 | 18 |
| Question not asked | 1 | 1 | | 1 | 6 | 7 | 3 | 7 |

4. How would (did) item-pricing influence your food habits in the dining hall?

| | <u>BAS</u> | | <u>RIK</u> | |
|--------------------|------------|-------------|------------|-------------|
| | <u>Pre</u> | <u>Post</u> | <u>Pre</u> | <u>Post</u> |
| Nutrition | | | | |
| Improved | 1 | | 2 | 3 |
| Deteriorated | 2 | | 1 | 1 |
| Quantity | | | | |
| Less, in general | 9 | 6 | 13 | 5 |
| Less, desserts | 5 | 2 | 3 | 4 |
| Less, meat | | | 2 | |
| Less, milk | 3 | | | |
| Less, specific | 1 | | 2 | |
| More, general | 3 | | 2 | 1 |
| More, meat | | | 1 | |
| More, specific | 1 | 3 | 2 | 2 |
| Quality | | | | |
| Improved | 2 | | 1 | 1 |
| Deteriorated | | | | |
| More "choosey" | 12 | 3 | 11 | 2 |
| More variety | 1 | 1 | 2 | 2 |
| Decreased waste | 4 | 1 | 2 | 3 |
| Decreased expense | 1 | | 2 | |
| Miscellaneous | | 2 | | |
| No answer | 1 | 14 | | 27 |
| Question not asked | 16 | 20 | 16 | 3 |

5. Why do you prefer item-pricing (meal-pricing)? (Asked of only the post-test respondents).

| | <u>BAS</u> | <u>RIK</u> |
|--------------------------------|------------|------------|
| <u>Prefer Item-Pricing</u> | | |
| Like to pay for what I take | 18 | 19 |
| Prices are good | 3 | 1 |
| I make money | 7 | 5 |
| Less waste | 3 | 5 |
| Can get seconds | 2 | 1 |
| Miscellaneous | 1 | 1 |
| <u>Prefer Meal-Pricing</u> | | |
| Get more for your money | 5 | 9 |
| Free seconds | | 5 |
| A La Carte costs too much | 2 | 2 |
| Saves me money | 1 | 1 |
| Less waste | 1 | |
| Miscellaneous | 0 | 3 |